

The heuristic-systemic model of sustainability stewardship: facilitating sustainability values, beliefs and practices with corporate social responsibility drives and eco-labels/indices, HaeJung Kim, Stacy H. Lee and Kiseol Yang, International Journal of Consumer Studies, Volume 39, Issue 3, , May 2015, 249–260p.

ISSN 1470-6423

Using a framework from the heuristic-systematic model and the value-belief-norm (VBN) theory, this study tests consumers' systematic conjunction of sustainability values, beliefs and practices, and examines the heuristic influence of sustainability stewardship on the consumers' VBN framework. In this study, sustainability stewardship within the textile and apparel industry refers to approaches that can facilitate the corporate social responsible (CSR) drive and eco-labels/indices in corporate sustainability practices. Data from 239 US college students were analyzed using a structural equation modeling method. The findings confirmed that only the CSR drive is significant as heuristic sustainability stewardship in facilitating the consumer's systematic process in the VBN framework, while eco-labels/indices do not moderate consumers' sustainable practices. In particular, the current CSR drives in the textile and apparel industry strengthen consumers' values in the altruistic, self-enhancement and biospheric dimensions, and, further, lead to the sustainability practices of eco-citizenship, green consumption and green product purchasing, through the mediation of pro environmental belief. Comprehending these dynamics can empower marketers and researchers to devise pertinent ideas and practical applications of sustainability stewardship to academia and to the textiles and apparel industry.

Keywords: Corporate social responsibility, eco-label/index, heuristic-systematic model, sustainability stewardship, VBN Theory

Sustainable fashion consumption and the fast fashion conundrum: fashionable consumers and attitudes to sustainability in clothing choice, Lisa McNeill and Rebecca Moore, International Journal of Consumer Studies, Volume 39, Issue 3, May 2015, 212-222 p.

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The fashion industry has recently heeded the call for sustainability and ethically sound production. There has been, however, a reluctant uptake of these products with many consumers and a seeming conflict with existing 'fast fashion' desires in this area. This study explores the attitudes of fashion consumers toward sustainable products, ethical fashion purchasing and their subsequent behaviour. The research applies the developmental theory model to a fashion context, finding fashion consumers can be categorized into one of three groups: 'Self' consumers, concerned with hedonistic needs, 'Social' consumers, concerned with social image and 'Sacrifice' consumers who strive to reduce their impact on the world. These different groups view fast fashion in conflicting ways and subsequent implications for marketing sustainably produced fashion products to each group are, thus, significantly different.

Keywords: Behaviour, clothing, consumer, eco, fashion, sustainable

The carbon-conscious-consumer? A causal model for the product carbon footprint of asparagus at the consumer stage, Paul Lampert, Eveli Soode and Klaus Menrad, International Journal of Consumer Studies, Volume 39, Issue 3, May 2015, 269–280p.

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Tools to measure climate impacts, such as a product carbon foot printing (PCF), have gained increasing attention in recent years. Our study shows that it is possible to develop a valid structural equation model for a PCF for the example of the use phase of asparagus on the basis of empirical data generated by a panel survey. The parameters considered in the model are environmental and sustainability-related attitudes, socio demographics and a technical component. The results show that the age of the technical component has effect on the PCF, an older technical component having an increasing impact, while a high degree of environmental concern has a decreasing effect.

Keywords: Behavior, green, household, sustainable, food, environmental concern

Consumer vulnerability: are older people more vulnerable as consumers than others?, Lisbet Berg , International Journal of Consumer Studies, Volume 39, Issue 4, July 2015 , 284–293 p.

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The aging population is an important consumer policy concern. And one relevant question to ask is: are there reasons to worry about consumer vulnerability among older people? The aim of the project was twofold: First, to gain insight into what makes people vulnerable as consumers, more precisely to reveal significant vulnerability drivers. Second, if possible, to distinguish particularly vulnerable consumer groups and their needs for targeted consumer policy measures. The project builds on a qualitative pilot study among older people, followed by a large nationally representative survey among people living in Norway, between 18 and 95 years old. Based on the analysis of 2100 telephone interviews, this paper rejects our a priori assumption, that older people constitutes a vulnerable consumer group. Although older people have several reduced capabilities that could act as vulnerability drivers, older people appeared to be less likely than other age groups to make unfortunate decisions in the markets. Older people also show a much more environmentally friendly consumption pattern than younger generations. The main individual vulnerability drivers appeared to be; poor economic awareness and lack of time. The results also indicate that people who lack calculating skills, as well as people living in households with scarce financial resources, are more likely than others to make economically unfortunate consumer choices.

Keywords: Consumer choices and practices, environmental vulnerability, vulnerability, vulnerable consumers, vulnerability drivers, older consumers

Making Small Numbers Count: Environmental and Financial Feedback in Promoting Eco-driving Behaviours, Ebru Dogan, Jan Willem Bolderdijk, and Linda Steg, Journal of Consumer Policy, September 2014, Volume 37, Issue 3, 413-422p.

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Energy conservation results in environmental (reduced emissions) and financial (reduced costs) savings. Consumers' perception of the worthiness of changes in behaviour may differ depending on whether environmental or financial savings are emphasized. The current study investigated the effects of using either environmental or financial feedback in the context of eco-driving. Participants evaluated six scenarios describing different eco-driving behaviours. Participants in experimental groups were informed about either the environmental or financial savings realized by adopting the behaviours. A control group did not receive information on possible savings. Results indicated that, unlike commonly assumed, environmental savings are considered more worthwhile than commensurate financial savings. Yet, intentions to adopt eco-driving behaviours were mainly sensitive to the presence of feedback per se, rather than the content of feedback. We discuss the theoretical and practical implications of these findings.

Keywords: Energy Conservation; Eco behaviour

Eco-labelling, Environment, and International Trade, Kenzo Abe, Keisaku Higashida and Jota Ishikawa, September 2000 22p.

The purpose of this paper is to discuss the effectiveness of eco-labelling schemes and their impacts on international trade issues descriptively, and to present a simple theoretical model of eco-labelling schemes in an international economy. First, it described the effects of ecolabelling schemes on consumer's behavior, environment, international trade, and investment. Authors set up a simple international oligopoly model with eco-labels. The eco-labelling scheme is assumed to be voluntary, and may discriminate against foreign producers. It analysed the effects of an introduction of domestic or foreign eco-labelling programs on environment. It also raised the issue of recognition of foreign eco-labelling schemes.

Keywords: Eco-labelling; International oligopoly

Does Eco-label Work for Consumers? A Quest for Identifying the Determinants of Consumers' Understanding and Perception of Eco-labels, Khan Taufique, Siwar Chamhuri and Basri Abdul Talib

National University of Malaysia, Institute for Environment & Development, Selangor, Malaysia

Presented during Conference "Global Change, Ecosystems, Sustainability" 5-8 December, 2013: Seventh Biennial Conference of Indian Society for Ecological Economics (INSEE), At Tezpur University, Assam, India

The term 'eco-labeling' has become a buzz word in today's sustainable business world. The use of eco-labeling in various forms has been increasing notably for past many years, sometimes as an environmental —requirement|| and sometimes merely as a marketing tool. For whatever apparent purposes the labeling is used, the ultimate goals are to educate and encourage the consumers to buy and use environment-friendly products. However, with so many competing eco-labels available today, questions arise about how well they are attended and understood by consumers. Mentionable studies have already been done on various dimensions of consumer response to eco-labels. Yet gap exists in exploring an inclusive set of parameters for investigating consumer perception of eco-labels. This paper reviews the major works done on the field and makes a synthesis of their findings with a view to identifying all the possible factors to be taken into account for measuring consumer perception of eco-labeling of products. Thereby it develops a structural equation model (SEM) with a tentative inclusive set of 9 parameters to be used in the investigation of consumer understanding and perception of eco-labeling. These parameters are: consumer awareness, visibility and attention, consumer knowledge, consumer trust, credibility of the source, type and level of information, clarity of meaning, persuasiveness, and private benefits. Although mentionable limitation of the paper is that it has relied only on the available published literature, this can be treated as an exploratory or pilot study for guiding the designing of large scale future empirical researches for developing a dependable inclusive set of parameters for testing consumer understanding and perception of eco-labeling. The results are therefore at best only tentative.

Keywords: Eco-labelling; Sustainability, Eco labels

The European Ecolabel – Advantages and Perspectives for Development in Romania, R. G. Albu and I. B. Chițu, Bulletin of the Transilvania University of Brașov Volume 5 (54) No. 2, 2012, 9-14p.

The ecological label has been implemented by the European Commission in 1992 in order to encourage the market of products and services with low negative impact on the environment. This paper presents the concept of European ecolabelling, the main types of ecolabels and the process of request and achievement of the European ecological label. In Romania, the European ecolabel helps companies consolidate their positions before customers, in accordance with the commitment for consumers and environment protection and sustainability.

Keywords: European Ecolabel, Environmental Protection, Types of Ecolabels, Impact on Environment

Eco-labelling of courses and programs at University of Gothenburg, Boman, J. and Andersson, U.

Journal of Cleaner Production, Volume 48, June 2013, 48-53p.

For several years, the University of Gothenburg has been classifying and eco-labelling its courses and programs according to the wide definition of sustainable development found in the Swedish Higher Education Act (Chapter 1, Section 5). The objective of this labelling, which corresponds to the ISO14024:2009 standard, is primarily to guide students in their selection of courses and programs. Two different eco-labels are used for courses and programs. Courses and programs that primarily or partly include issues related to ecological, economic or social sustainable development have different labels. The result shows that the proportion of courses and programs that are eco-labelled is increasing over the years and currently, approximately 30% of the courses and programs are eco-labelled. Studies have shown that the eco-labelling of university courses and programs is still new and many university lecturers are uncomfortable with defining sustainable development within their subject area. University of Gothenburg has started a course to train university lecturers on how to use good examples, find good literature and through dialogue, get help on how sustainable development can be integrated into various subject areas.

Keywords: Education for Sustainable Development, ESD, Environmental Management System,

Graded eco-labels: A demand-oriented approach to reduce pollution, Mercedes Bleda and Marco Valente , Technological Forecasting & Social Change Volume 76, 2009, 512–524p.

Supplied oriented environmental policies are generally used in order to limit production related pollution. This fact is based on the hypothesis that consumers are not willing to sacrifice personal utility for a wider social gain. We suggest that widespread environmental concerns of consumers can be exploited to push producers along cleaner technological patterns. Our core assumption is that consumers would be ready to purchase cleaner products if the products' characteristics are not 'too dissimilar' to those of more polluting alternatives. However, due to a lack of information about non-observable product characteristics, this assumption on its own is not sufficient for 'environmental friendly' producers to become competitive. We show – by means of a simulation model – that only if consumers are provided with appropriate information on the greenness of products through adequate eco-labels (graded eco-labels), then producers will be pressed to implement innovations aimed at reducing the environmental impact of their products. Under two test settings – one without any certification and another with binary eco-labels – the model shows markets characterised by highly polluting technological patterns. Only in the presence of graded eco-labels, competition drives the market toward cleaner technological patterns

Keywords: Environmental policy, Graded eco-labelling, Technological change, Consumers' theory Simulation modelling

Eco-labelling and product development: potentials and experiences, Frieder Rubik, Dirk Scheer and Fabio Iraldo, International Journal Product Development, Volume 6, Nos. 3/4, 2008, 393-419p.

The last years promoted new policy instruments based on cooperation and aiming at a higher degree of voluntariness and self-regulation. Eco-labelling is a typical instrument applied in this context. Eco-labels award and promote environmentally superior goods and services and offer information on their quality and performance with respect to consumer health, resource consumption, and environmental impacts. We present an overview on the history and 'landscape' of eco-labels and explain objectives and mechanisms. Later, we examine potentials and experiences within business. In the following, an empirical view on the state, successes and failures of eco-labelling – primarily based on a meso- and macro-economic view – is presented. We close with consequences and challenges for strengthening eco-labelling.

Keywords: Eco-Labels; Product Development; Product Innovation

Tradeoffs between sensory attributes and organic labels: the case of orange juice, Xiang Bi, Zhifeng Gao, Lisa A. House and Danielle S. Hausmann, *International Journal of Consumer Studies*, Volume 39, Issue 2, March 2015, 162–171p.

ISSN 1470-6423

Researchers have investigated the role of sensory attributes and organic labels on consumers' preferences and perceptions of food, but few has examined whether sensory attributes are relevant for consumers who prefer organic food and the extent to which sensory attributes influence consumer's marginal willingness to pay for organic food. The objective of this study is to determine how sensory attributes and organic label work together to influence consumer's stated preference and marginal willingness to pay for orange juice. To achieve this, we conducted a blind sensory evaluation of two orange juices followed by a discrete choice experiment to determine the extent to which consumer's stated preference for orange juice labelled as organic is affected by sensory experience preceding the choice experiment. Random parameter logit models and latent class conditional logit models are used to explain stated preference. Results indicate that the effect of sensory attributes on consumer's marginal willingness to pay differed by organic juice and conventional juice.

Keywords: Choice Experiment, Orange Juice, Organic food, Organic, Sensory Evaluation, Willingness to Pay, Organic Label, Sensory attributes

Male eco-fashion: a market reality, Clare D'Souza, Andrew J. Gilmore, Patrick Hartmann, Vanessa Apaolaza Ibáñez and Gillian Sullivan-Mort, *International Journal of Consumer Studies*, Volume 39, Issue 1, January 2015, 35–42p.

ISSN 1470-6423

With the fashion industry striving for competitive advantage, eco-fashions provide an opportunity to distinguish environmentally friendly products from other fashion products. However, the viability of these eco-fashion brands is questionable. An exploratory study is conducted to explain men's differences, particularly, as clothing styles vary for men and women. The research examines if men's purchase intent would make a difference to the eco-fashion industry. A random sample is collected to examine men's purchase intentions for eco-clothing by product attributes, environmental concerns and sustainable behaviour. Partial least square is used to empirically test the sample. A conceptual model is developed. It was found that there are four significant exogenous variables, environmental concern, sustainable pricing, sustainable behaviour and sustainable branding with a moderately strong, negatively signed coefficient path. Perceived consumer effectiveness and faith in others are not found to be significant moderators. This defined male segment makes several theoretical contributions as well as generating useful recommendations for marketing practitioners.

Keywords: Eco clothing, fashion, gender, green, sustainable textiles, Environmentally friendly products

Consumer response to food labels in an emerging market: the case of Romania, Alexandra Festila, Polymeros Chrysochou and Athanasios Krystallis, International Journal of Consumer Studies, Volume 38, Issue 2, March 2014, 166–174 p.

ISSN 1470-6423

This study investigates consumer response to food labels in an emerging market. More specifically, it measures the levels of awareness, objective and perceived understanding, perceived usefulness and perceived trustworthiness of the most prominent food labels found in the Romanian market. An online survey was conducted with a convenience sample of 428 respondents (45.6% males of an average age of 30.6 years). Results revealed that for most respondents, awareness levels towards food labels are generally low, except for the Guideline Daily Amount (GDA) and the organic food labels. Objective understanding towards food labels was relatively high, especially towards those food labels that included a clear text element. Perceived understanding, perceived usefulness and perceived trustworthiness were found to be consistently high with regard to the GDA and the national organic food labels, while the European organic label scored lower. Finally, response to food labels was found to differ between aware and unaware respondents.

Keywords: Consumer response, emerging market, food labels, Romania market, GDA (Guideline Daily Amount), Organic food labels

The effects of traffic light labels and involvement on consumer choices for food and financial products, Larissa S. Drescher, Jutta Roosen and Stéphan Marette, *International Journal of Consumer Studies*, Volume 38, Issue 3, May 2014 , 217–227p.

ISSN 1470-6423

Traffic light (TL) labels that inform consumers regarding product safety have received increasing attention in different fields. Behind the background of behavioural economics, this paper presents the results of a split-sample choice experiment conducted in Germany to evaluate the impact of TL labelling on purchases of food and financial products. We hypothesize that consumers experience different levels of involvement with these two types of products, leading to different recommendations regarding the use of TLs. The results show that TLs affect consumer purchases of both product groups by focusing their attention on specific product attributes. For food, whereas the low-fat attribute has no significant impact on food choices that do not include TLs, this attribute has a positive impact on choices once it is signalled with a TL label. The positive evaluation of the organic production attribute of a food product without a TL decreases when the same product is labelled with a TL. In the case of financial products, TLs significantly reinforce the impact of all characteristics on choice probability. TLs also generate a halo effect with regard to return variance. Although consumers demonstrate different levels of involvement for the two types of products, involvement does not always impact the evaluation of attributes. Compared with less involved consumers, more involved consumers exhibit more heterogeneous evaluations of the return variability attribute in the case of the financial product and the organic attribute in the case of the food product.

Keywords: Financial products, Product safety, Food labels, food products, involvement, product choice, traffic light labeling, willingness to pay

Exploring the social value of organic food: a qualitative study in France, Sandrine Costa, Lydia Zepeda and Lucie Sirieix International Journal of Consumer Studies Volume 38, Issue 3, May 2014, 228–237p.

ISSN 1470-6423

The purpose of this paper is to investigate whether organic foods are used to signal social identity, class or status, i.e. if they have social value. Our analysis is based on two sociological approaches: Bourdieu's theory of social reproduction and symbolic interactionism. This paper analyses three research questions: (1) does organic food have social symbolism?; (2) does the social value of organic food depend on the venue where it is obtained?; (3) are other symbols associated with the social value of organic food? To answer these questions, we gather qualitative data from organic food shoppers' perceptions of the social value of organic food, using a qualitative study, with four group interviews in Montpellier (France) with a total of 20 participants. Results indicate that organic food has a social value for the participants in our group interviews. This social value depends on the venue (community-supported agriculture, market or supermarket) where organic foods are purchased and also on whether consumers or producers exhibit additional green behaviours to validate their commitment to sustainability. Our results imply that a quantitative study on social value of organic food would be useful to investigate these findings in a larger sample since these findings have several marketing and advertising implications.

Keywords: Organic food, status, Bourdieu, symbolic interactionism, Montpellier, Green behaviour

Changes in consumer segments and preferences to green labeling, Debora Whitson, H. Erkan Ozkaya and Juanita Roxas, International Journal of Consumer Studies, Special Issue: Sustainable Consumption. Guest Editor: Dr Elizabeth Kempen, Volume 38, Issue 5, September 2014, 458–466p.

ISSN 1470-6423

This paper is a follow-up on a study conducted in 1996 to determine if there have been changes in market segments and consumer preferences since that time. The specific purpose of this study is to determine whether respondents' will be influenced by the presence of seals and/or logos certifying that the laundry detergent is environmentally friendly, and whether the customer segments and preferences have changed over time. Respondents were subjected to a stack of 16 cards with different combinations of price, degree of concentration, whether detergent had regular or low suds formulas, the presence of phosphates, and the presence of either a Green Seal, an EPA logo or both. The data yielded three distinct clusters/groupings of respondents (i.e. Green Seal, price and EPA Logo) different from the previous study. This study showed that respondents were not monolithic in their preferences for green labelling techniques. The findings of this study indicate that the customer segments and their preferences have changed over time. Suggestions are made for marketing to each of the respective current segments.

Keywords: Choice, Eco, Environmentally friendly, green, marketing, Laundry detergent, Green labeling techniques.

Managing green complexities: consumers' strategies and techniques for greener shopping,

Christian Fuentes, International Journal of Consumer Studies, Special Issue: Sustainable Consumption. Guest Editor: Dr Elizabeth Kempen, Volume 38, Issue 5, September 2014, 485–492p.

ISSN 1470-6423

The complexities of green consumption are often discussed. Studies bring to fore difficulties of choosing sustainable alternatives in a complex world. How are consumers to know what products to purchase in a market society with global commodity chains? Can consumers really trust corporations' environmental reporting? In arguing this, these studies are giving voice to some of the difficulties and anxieties people have to deal with in a consumer society. As others have argued, consumption involves work and being a consumer is increasingly a laborious and anxiety-producing activity. However, what these studies are missing is the fact that consumers do manage to consume green, at least some of them do. An interesting question is then, how is this complexity managed? The aim of this paper is to contribute to the field of green consumption by illustrating and conceptualizing how consumers practically manage green complexities when performing green shopping. The focus is on shopping practices. Drawing on an ethnographic study of the Nordic Nature Shop – a Swedish retailer chain of outdoor products – and making use of practice theory, this paper shows that consumers have different strategies and techniques to make their shopping practices more sustainable. One strategy used is to shop for things that last. Consumers focused then on finding quality outdoor products with 'timeless design'. Another strategy included instead consuming less. These consumers had different techniques that aimed at reducing their overall consumption of outdoors products. Finally, there were also those that focused on purchasing green products. Here, two techniques were talked about. While some focused on finding green brands, others looked at the product information in search on information concerning its manufacturing. In sum, the practice-based analysis showed that green complexities are managed through the development of various green shopping strategies. Green shopping, however, is not an uncomplicated accomplishment. Green shopping, the analysis suggests, is knowledge demanding for consumers and requires an enabling/supportive socio-material retailscape.

Keywords: Green consumption, practice theory, shopping, sustainable, Nordic Nature, Green shopping

Green spirit: consumer empathies for green apparel, Kirsten Cowan, and Tammy Kinley, International Journal of Consumer Studies, Special Issue: Sustainable Consumption. Guest Editor: Dr Elizabeth Kempen, Volume 38, Issue 5, September 2014, 493–499p.

ISSN 1470-6423

The fashion industry has not fully addressed the movement towards sustainability head-on. The purpose of this study was to identify factors influencing environmentally friendly apparel purchase intentions using the theory of planned behaviour as a guide. In this case, environmental knowledge, environmental concern and attitudes towards environmentally friendly apparel purchase behaviour make up the attitude component. In addition to social pressure, we suggest environmental guilt also makes up the dimension of normative influence. Furthermore, the study extends the theory of planned behaviour's idea of perceived behavioural control beyond previous behaviour and convenience, also taking into account willingness to pay. Data were collected from 220 American adults via an online consumer panel. The results show that individual environmental attitudes, environmental concern and knowledge, social pressure to behave in an environmentally friendly manner, environmental guilt, perceived environmental impact, past environmentally friendly apparel purchases, accessibility and cost of environmentally friendly apparel all impact purchase intentions. Furthermore, previous purchases, attitudes towards purchasing environmentally friendly apparel and social pressure are the strongest indicators of future environmentally friendly purchase behaviour. Managerial implications are discussed.

Keywords: Apparel, eco, environmentally friendly apparel, green, sustainability, theory of planned behavior

Consumers' preferences for eco-friendly appliances in an emerging market context, Nadine C. Sonnenberg, Alet C. Erasmus and Adré Schreuder, *International Journal of Consumer Studies*, Special Issue: Sustainable Consumption. Guest Editor: Dr Elizabeth Kempen, Volume 38, Issue 5, September 2014, 559–569p.

ISSN 1470-6423

At present, the South African (SA) energy supply per person surpasses that of several developing countries in the world notwithstanding the energy crisis in the country and the evidence that SA produces among the highest greenhouse gas emissions per unit of gross domestic product (GDP) in the world. The problem is aggravated by an increased demand for major household appliances in recent years, contributing to an overextension of existing capacity and perpetual power failures. Increasing consumption patterns in the rapidly expanding economy of South Africa require intentional efforts to promote more sustainable product choices e.g. an understanding of the relevance of environmental attributes in consumers' evaluation of product alternatives to ensure lasting environmental implications. Using Sawtooth conjoint software, trade-off tasks were included in a cross-sectional survey involving 648 households in Tshwane, South Africa to assess the relative importance of various environmental attributes in relation to other product features (e.g. brand and price) of washing machines. Aggregate results reveal that consumers across various age, income and educational levels prioritize brand and price, despite the long-term financial and environmental repercussions of product features that impact on the use of natural resources. Four consumer segments were identified through cluster analysis that differ in terms of preference structures, which offer valuable insight for the development of intervention strategies and marketing campaigns. The findings underline current literature, namely that 'green' product offerings must also perform competitively in terms of non-environmental attributes. Future studies should focus on a broader scope of factors, including consumers' knowledge and awareness of the environmental impact of their product choices, to better inform marketing campaigns and intervention initiatives.

Keywords: Conjoint analyses, Using Sawtooth conjoint software, emerging economies, environmental attributes, green products, household appliances, pro-environmental choices, GDP(Gross domestic product)

Consumer understanding, perceptions and behaviours with regard to environmentally friendly packaging in a developing nation, Lyndsey Scott and Debbie Vigar-Ellis, International Journal of Consumer Studies, Volume 38, Issue 6, November 2014, 642–649p.

ISSN 1470-6423

There has been very little research conducted into sustainable consumption patterns, knowledge and attitudes in relation to environmentally friendly packaging in South Africa. Market research that has been conducted in relation to sustainable consumption has largely been based on overseas studies and is therefore limited in that its reflection of information is from a first world country perspective. Environmental knowledge has been found to impact environmentally friendly behaviour both directly and indirectly. Both quantitative and qualitative data were collected to investigate South African respondents' understanding (knowledge) and perceptions of environmentally friendly packaging as well as the extent to which they exhibited green behaviour with regard to environmentally friendly packaging activities such as reusing and recycling.

The data gathered for this study were collected by means of a questionnaire distributed to respondents using snowball sampling through Facebook networks. The snowball sample required respondents to answer the questionnaire and pass it on to other Facebook users. The unique benefit of this study is that it is conducted in a developing nation where issues such as sustainable consumption are new and evolving. There is limited promotion or implementation of environmentally responsible practices by authorities or industry. South African consumers in this study were found to exhibit limited knowledge of what environmentally friendly packaging is, how to differentiate it from normal packaging, as well as its benefits. However, actions are even less evident with regard to environmentally friendly packaging. Recommendations of how to improve knowledge as well as facilitate purchase of environmentally friendly packaging are provided.

Keywords: Environmentally friendly packaging, environmentally friendly behavior, green marketing, green consumers, packaging, sustainable consumption

Export of Environmental Goods: India's Potential and Constraints, Van Son Nguyen and Kaliappa Kalirajan, ASARC Working Paper 2013/15, 30p.

The increasing awareness of climate change and its impact on overall economic growth has encouraged many countries to pursue environmental friendly production and consumption of goods and services. Based on their comparative advantages, developing countries too are emerging as exporters of environmental goods and services (EGS) along with developed countries. An important question in this context is whether these emerging EGS exporting developing economies are able to realize their export potential fully. Using data between 1996 and 2010, this paper identifies the constraints that make India, which is one of the emerging EGS exporters, not able to realize its export potential of environmental goods (EG). The empirical results show that the growth of India's exports of EG was negatively affected by its 'behind the border' constraints, such as weak infrastructure and institutions, while the effect of 'explicit beyond the border' constraints, such as partner-countries' tariff and exchange rate on the exports of EG was relatively small. The reduction of India's trading partners' 'implicit beyond the border' constraints, such as weak infrastructure and institutions has made significant contribution to India's exports of EG, especially during the period 2005 – 2010.

Keywords: Environmental goods and services, stochastic frontier gravity model, 'behind the border' constraints, 'explicit beyond the border constraints', 'implicit beyond the border' constraints, Asia-Pacific countries.

Challenges Facing Certification and Eco-Labeling of Forest Products in Developing Countries, P.B. Durst , P.J. McKenzie , C.L Brown and S. Appanah, International Forestry Review Vol. 8, No.2, 2006, 193-200p

ISSN: 1465-5489

Certification has been developed as an instrument for promoting sustainable forest management. Although the initial focus of certification was on tropical forests, it rapidly shifted to encompass all forest types. Ten years after the first certification schemes were developed, most (91.8 percent) of the 271 million hectares of forests that have been certified are located in Europe and North America. Only 13 percent of certified forests are located in developing countries and only 5 percent of the certified forests are located in the tropics. Among the reasons for this disparity are: weak market demand for certified products in global markets; wide gaps between existing management standards and certification requirements; weak implementation of national forest legislation, policies and programs in developing countries; insufficient capacity to implement sustainable forest management at the forest management unit level and to develop standards and delivery mechanisms; and the high direct and indirect costs of obtaining certification in developing countries. Despite these challenges and constraints, many developing countries remain interested in pursuing certification. Several promising developments have recently emerged that may give further encouragement to developing countries' efforts, including supportive codes of forestry practice, stepwise approaches to certification and increasing interest in forest certification and certified products in the Asia-Pacific region.

Keywords: Forest Certification, Developing Countries, Sustainable Forest Management

The Road Ahead: Jute, Coir and Waste material are set to make rural roads Economic and Eco friendly: Jitendra, Down to Earth, February 16-18 2014, 18-22p.

The Indian Road Congress has released the Rural Road Specification Code 2014 detailing how to use locally available material like coir, jute and waste in laying the. Waste includes such as construction and demolition debris, fly ash, paper mill sludge, and plastic rubbish. Such code is required because the rural roads are typically paved with bitumen or concrete but underneath materials are potential economical and environmental disaster. Down to Earth (DTE) analyses some of the technologies to find out how economical and environment – friendly they are. DTE has compared with the conventional roads and given its view how much it is cheaper and will last for how many years. DTE has analysed each material like jute and coir, plastic, fly ash and demolition waste. They interviewed experts and presented their views also.

Keywords: Eco-friendly Products, Eco friendly roads

EVER: Evaluation of EMAS and Eco-label for their Revision: Executive Summary, 26 December 2005, 490p.

The EVER study has been carried out on behalf DG Environment of the European Commission, by a consortium of consultants led by IEFE – Università Bocconi, (IT). The other partners in the consortium were Adelphi Consult (DE), IOEW, Office Heidelberg (DE), SPRU, Sussex University (UK) and Valør & Tinge A/S (DK). The EVER study has provided recommendations for the revision of two voluntary schemes managed by the European Commission: EMAS and the EU Eco-label.

Keywords: Eco label, EMAS

How effective is the current procedure of Product Quality Standardization in the Indian market? A Case Study on Bureau of Indian Standards (BIS) - National Standards Body, Vibhir Relhan, CCS Working Paper No. 281, Summer Research Internship Programme 2012, Centre for Civil Society, 2012, 51p.

This paper has taken an attempt to identify the answers to the questions and other similar ones raised by consumers for sub standard products and services. Results of detailed consumer surveys conducted have thrown a light on the lack of awareness amongst the consumers about product quality standardization. Interviews with technical heads of consumer organisations, retired BIS officials and local suppliers and retailers in the market has provided some valuable insight into the current scenario. The paper gives a closer look at the complex judicial process that exists in the country and the problems faced by authorities in bringing offenders to book. The paper has also tried to identify and fix some responsibility on institutions and companies that are responsible for upholding this trust in the market. On the basis of consumer surveys conducted in various areas and interviews with various stakeholders and people privy to this industry, plausible solutions and reforms have been recommended.

Keywords: Sub standard Product, Standards-BIS

Guidelines for Making and Assessing Environmental Claims Dr Juan R Palerm, Report No. 67/94/22/1/00281, European Commission, Directorate-General Health & Consumer Protection, December, 2000, 29p.

This document presents Guidelines, consistent with ISO 14021:1999, aimed at helping anyone wishing to make an environmental claim ensure that it will be a good, acceptable claim, as well as providing guidance to any party or authority wishing to evaluate existing claims. The European Commission assembled a working group to develop this document and has integrated general concerns through the consultation with relevant authorities and interest groups. These Guidelines are intended as a tool to facilitate the understanding and implementation of ISO 14021:1999. This document gives guidance to any individual or entity willing to make an environmental claim about a good or a service, or wishing to assess an existing one. It provides guidance on the use of statements, symbols and graphics regarding goods and services, aiming at ensuring truthful, clear and not misleading environmental claims. Finally, it provides an overview of the legal framework regulating self-declared environmental claims in the European Union.

Keywords: ISO 14021:1999, Environmental Claims,

Food Labels Survey: 2014 Nationally-Representative Phone Survey, Consumer Reports® National Research Center, Survey Research Report, 2014 23p.

The consumer demand for more natural, environmentally friendly and socially-responsible food has proliferated. More than ever, consumers want to know exactly what is in their food; they are turning to food labels to provide this information. The Consumer Reports® National Research Center conducted a nationally representative phone survey to assess consumer opinion regarding the labeling of food. Survey showed that most US consumers are environmentally and socially conscious when it comes to the food they eat; popular guiding principles when purchasing food include supporting local farmers, protecting the environment, and fair conditions for farm workers. In fact, fair trade conditions are so important to Americans, that most are willing to pay more to ensure their food was produced via fair working conditions. Findings also showed consumers expect more from natural and organic food labels. In addition, the vast majority of consumers want food labels to reflect different country origin, and if antibiotics or genetically modified ingredients were used at any stage of food production. Among Americans there is growing awareness of misleading food labeling practices; findings equivocally show that there is a consumer mandate for greater standardization and regulation of food labeling.

Keywords: Food Labels, Environmentally friendly Labels

Consumer Greenwashing: Using the Theory of Planned Behaviour to Explain Unethical Consumer Behaviour, Steven Schielke and Claudia Fantapié Altobelli, Institut für Marketing. Diskussionsbeitrag Nr. 5, January 2012, 31p.

ISSN 2193-8482

The market for green products is a challenge for marketers. Segmentation studies regularly show contradicting results and little is known about the motivations to buy green products. While the green consumer is often expected to be driven by environmental concerns, this study suggests that some consumers, analogue to companies, perform greenwashing: consuming green products to offset environmentally harmful (consumer) behaviour and consuming green products to attain status and a pro-social reputation. 174 students from Germany and the UK took part in an online survey. In this study, Ajzen's Theory of Planned Behaviour (TPB) was used to investigate consumer greenwashing. The two predictors Self-Identity and Moral Obligation were included in the original framework of the theory. Results show that both predictors significantly improve the TPB in the context of status consumption but not in the case of offsetting. Furthermore, around one fifth of the participants reported that they performed both greenwashing behaviours from moderate to high frequency and only half of the participants reported that they did not perform either of the behaviours.

Keywords: Greenwashing, Environmental concerns, Consumers

Driving Pro-Environmental Choice, Elizabeth A. Keenan, On Amir and Ayelet Gneezy, working papers series, May 2014, 58p.

Despite ongoing efforts to encourage sustainable behavior and consumers' claims that they are eco-minded, green attitudes remain insufficiently reflected in consumers' choices. In order to better understand and help explain what drives consumers' choice of green products we consider three major theoretical accounts drawn from literature highlighting positive and negative spillover effects in green choice: a) a moral account involving the desire for a moral token or activation of moral standards, b) an identity account involving the motive for consistent green behavior and identity, and c) an accessibility account whereby sustainability is top of mind. Using a combination of hypothetical and consequential choice experiments, we tested the relative role of these drivers in governing peoples' choices of pro-environmental options over equivalent non-green alternatives, as each dictates vastly different marketing strategies. We find green product choice is largely and consistently explained by the real-time accessibility of eco-friendly concepts. Moral and identity drivers also play a role but to lesser and varying degrees. We discuss the implications of our findings for increasing consumers' choice of green products.

Keywords: Decision-making, eco-friendly, accessibility, identity, moral

Eco-Labeling: Life-Cycle Assessment in Action, Environment, Health and Safety Committee (EHSC) of the Royal Society of Chemistry, Dec 1998, 8p.

This Note was prepared by EHSC of the Royal Society of Chemistry. It outlines what eco-labelling is about and to introduce some of the questions and concerns that have been raised about it. It provides a further illustration of the importance of chemistry in Life-Cycle Assessment (LCA). It briefs the history of eco-labelling and role of European Union. Its significance to chemist and before providing eco labels to products requires an assessment of the overall environmental effects of the product from cradle to grave. The development of chemical processes with reduced environmental impact should help to 'ratchet up' the requirements for awarding Eco-labels. The Society has set up a 'Green Chemistry Network' to help promote the science and application of Green Chemistry. The Note does not pretend to be a full or definitive guide and readers are urged to obtain more detailed information if this is required.

Keywords: Eco-Labeling, Life-Cycle Assessment

Eco-labelling: to be or not to be? Desirability of eco-labels from an environmental and poverty perspective, Marisa Korteland, The Netherlands: CE Delft Solutions for environment, economy and technology, May 2007, 86p.

This report is not intended to provide a comprehensive overview of all aspects, but rather a rapid assessment that clarifies the key issues related to eco-labelling on the basis of two case studies; the Forest Stewardship Council (FSC) label on forestry products and the Marine Stewardship Council (MSC) label on fishery products. Based on its findings, it offers some policy recommendations. It introduces the research approach chosen and contains the theoretical framework that is used for reviewing the performance of existing labels. Consequences for government policy are highlighted here too.

Keywords: Consumption, Production, Eco-labelling, Trade, International, Developing countries, Welfare, Effects

It's all greenwash: Eco-friendly products, services are nothing but excellent marketing strategies, Aparajita Sengupta, Down to Earth, May 16-31, 2014, 47-48p.

With the rise of environmentally friendly products and services the manufacturers began using green marketing strategies. Companies and industries create a pro-environmental image; sell a product or a policy. The author expresses her view regarding capitalist consumerism and its impact on people which changes their logic. 'Greewash' has gain access to domestic products like building projects and government aided energy schemes. It is successful because of two reasons one, it is an excellent marketing strategy and second it deals with the societal internalization of corporate capitalism and its mantra of progress. It's important to know what makes something "green." Consumers have to adopt more innovative practices that replace buying, rediscover the power of community, and rethink for cooperative and sharing drives.

Keywords: Consumerism, Eco products, Trade, Capitalist Consumerism, Greenwash

Green Marketing and Sustainable Development Challenges and Opportunities, Jatin K. Modi, Indian Journal of Applied Research,

Volume: 4, Issue: 1, Jan 2014, 323-326p.

ISSN - 2249-555X

In the modern era of globalization, it has become a challenge to keep the customers as well as consumers in fold and even keep our natural environment safe and that is the biggest need of the time. As Society is becoming more aware of the environmental issues like; global warming and the impact of environmental pollution, businesses have begun to modify their behavior in an attempt to address society's "new" concerns. Green Marketing is one such phenomenon which has grabbed particular attention in the modern day market by corporate houses and government and is seen as an important strategy of facilitating sustainable development in all over India as well as globe. The development of green marketing has opened the door of opportunity for companies to co-brand their products into separate line, lauding the green – friendliness of some while ignoring that of others. There has been a lot of literature review on green marketing over the years, the paper identifies the segments of green consumers and explores the challenges and opportunities businesses have with green marketing. The paper describes the reason why companies are adopting it and future of green marketing and concludes that green marketing is something that will continuously grow in both Practice and demand.

Keywords: Green Marketing, Sustainability, Consumer Behavior, Green Community, Environmental Pollution

A to Z of Green Marketing in India, Anna Khan, International Journal of Management & Information Technology,

Volume 1, No 2, July, 2012, 46-52p.

ISSN: 2278-5612

From the time the industrial era started, humans have used nature selfishly. Man has been accused of heartlessly damaging the environment and has been found guilty of ruining the ecology. This has in turn reflected in the major calamities and catastrophe that we face today. The famines and floods or the melting of the glaciers are some of the examples of human carelessness. However it has become the need of the hour to focus on what can be done to tackle the situation at hand and focus on building a sustainable world. The following paper will try to 1) understand the term green marketing 2) focus on whether Indians are a green community 3) steps taken by government to ensure environment protection 4) how the Indian companies are responding green issues.

Keywords: Green Marketing, Sustainability, Consumer Behavior, Green Community

Ecomark Indicators in India, Shekhar D Bhole, U P Waghe, and N S Raman,
International Journal of Life Sciences Biotechnology and Pharma Research,

Vol. 2, No. 4, October 2013, 28-41p.

ISSN 2250-3137

Process industries all over the world are diversifying progressively into more capital intensive and energy intensive areas which are continuously degrading the environmental quality. In order to maintain the competitiveness in global market, the industries keep on restructuring and/ or reengineering to ensure desired environmental quality with decreased costs of production, operational safety-cum-flexibility through innovative technology. These goals are intricately linked to waste minimization and overall environmental performance. Considering the future environmental and energy scenarios, Ecomark is now recognized as a prerequisite for sustainable development and eco-friendly environmental management in industries. The preventive and reactive approaches do not complement each other in the current practices of environmental pollution prevention as reflected in legislative, administrative and policy formulations. The regulatory frameworks have focused mainly on pollution control .through End-of-the-Pipe (EOP) treatment, which allows wasteful use of resources and then consume further resources to solve the environmental problems in a particular medium. However, the practice – in vogue seldom achieves industrial economy since energy intensive cleaner technologies have emerged as a hall mark of industrial production. This calls for an integrated Ecomark approach considering continuous assessment of manufacturing process vis-a-vis state of the art of cleaner technologies of industrial production. This paper addresses itself to the development of Ecomark Indicators with a systems approach concept considering the possibilities of energy saving, raw material saving and water budgeting through consideration of resources of protection of environment as an integrated framework for the practical implementation.

Keywords: Ecosystem, Sustainability, Management, Tools, Proactive, Ecomark

Terminal Evaluation of UNEP Project: Enabling developing countries to seize eco-label opportunities - Capacity building and technical assistance for industries and governments in developing economies,

Aimee Russillo, UNEP, April 2012, 108p.

The project aimed to enable developing countries to seize eco-label opportunities through raising awareness, building capacity of both industry and government stakeholders and providing technical assistance to specific companies willing to pursue an eco-label (ISO type I). The Project was designed to fill in a critical gap identified by developing countries on the needs and challenges to enable them to seize the win-win opportunities presented by eco-labels in reducing the environmental impact in manufacturing industries. The project has addressed three main issues: information: access to coherent, credible and clear information about eco-labelling programmes, requirements and markets;

Capacity building: comprehensive, coordinated and needs-based support to develop sustainable enterprises and Policy framework: integration in supportive policy framework. The report ends with recommendations which are actionable proposals and mainly involve leveraging of project assets. It also details the lessons learnt during the process.

Keywords: Eco label, ISO, Eco labeling Programmes

Why was the Indian Ecomark Scheme not successful? Simi T B, SQ-raising the Sustainability Quotient,

Vol. III No. 3 July - Sept. 2013, 10-12p.

This paper is on why this scheme does not have the desired impact in the country even in India it is launched in 19991. It has not caught the fancy of the buyer or the industry, even after two decades of existence. It was blamed for too many product categories, a three-tiered system for the implementation and complex process of the Ecomark Scheme. It suggests for the review of policy and recommended for the popularisation of the Ecomark Scheme.

Keywords: Ecomark Scheme, Eco label

Ecolable and Its Environmental Countenance, Lokesh Kumar Panda and Dr. Shreerup Goswami, Orissa Review, October – 2009,

64-71p.

This article details the information Indian eco labeling scheme. It describes the different groups of label like fair trade, product specific labels, national labels etc. It also explains the general criteria and requirements needed for eco label. Also explains the product specific criteria and which products are covered in Indian eco labeling schemes. It explains the role of BIS and mechanism of getting eco mark logo. It also gives the information on eco labelling schemes across the world.

Keywords: Ecomark Scheme, Eco label

Fabrication and Characterizations of Biodegradable Jute Reinforced Soy based Green Composites, Ajaya Kumar Beheraa, Sridevi Avanchaa, Ratan Kumar Basaka, and Ramkrishna Sen, Carbohydrate Polymers,

Volume 88, Issue 1, 17 March 2012, Pages 329–335

Jute reinforced soy milk based composites using non-woven and woven jute fabrics were developed and characterized. Mechanical properties, viz., tensile strength, elongation at break, flexural strength, tensile and flexural modulus of these composites were measured and reported. Composites having 60 wt% jute felt or jute fabric possessed the best mechanical properties. Hydrophilicity of the composites was assessed by the measurement of contact angle and water absorption after immersing in water at ambient temperature as well as in boiling condition. Biodegradability of the composites was evaluated in compost soil burial condition. Fourier transform infra-red (FTIR) and optical microscope (OM) analyses of the buried samples confirmed the degradation of the composites. The composition of the developed composites is novel. The fabricated composites can be used in various fields for replacing plastics. This indicates that such composites are biodegradable and environment friendly.

Keywords: Jute fabric; Soy milk; Green composite; Biodegradation

Ecolabelling – as a Potential Marketing Tool for African Products (An overview of opportunities and challenges), UNEP and ARSCP, 36p.

This report highlighted the spread of environmental requirements, including ecolabelling and other types of standards, can be expected to continue to increase due to the actions of private market actors, particularly through supply chain contracts and big retail chains. It also emphasises the need to contribute to the design of ecolabelling programmes and accompanying private and public policies that respond to SMEs and developing country needs and conditions, including ‘phased approaches’ to the introduction of standards, technical equivalence agreements and lower-cost conformity assessment and certification services. This brochure was produced on the basis of the outputs of the activities that were carried under the ‘Development of an African Ecolabelling Scheme’. This is one of the activities implemented as part of the project on ‘Supporting the implementation of the African 10 Year Framework Programme on Sustainable Consumption and Production and the work plan of the Marrakech Taskforce on Cooperation with Africa’.

Keywords: Eco label, Eco labeling Programme-Africa, Eco labeling Programmes

Extracellular Biosynthesis of Silver Nanoparticles using the fungus *Fusarium semitectum*, S. Basavarajaa, S.D. Balajia, Arunkumar Lagashettyc, A.H. Rajasabd, A. Venkataramana, Materials Research Bulletin,

Volume 43, Issue 5, 6 May 2008, 1164–1170p.

Researchers have found an environment-friendly way to mass-produce silver nanoparticles.

Development of environmental friendly procedures for the synthesis of metal nanoparticles through biological processes is evolving into an important branch of nanobiotechnology. In this paper, we report on the use of fungus “*Fusarium semitectum*” for the extracellular synthesis of silver nanoparticles from silver nitrate solution (i.e. through the reduction of Ag^+ to Ag^0). Highly stable and crystalline silver nanoparticles are produced in solution by treating the filtrate of the fungus *F. semitectum* with the aqueous silver nitrate solution. The formations of nanoparticles are understood from the UV–vis and X-ray diffraction studies. Transmission electron microscopies of the silver articles indicated that they ranged in size from 10 to 60 nm and are mostly spherical in shape. Interestingly the colloidal suspensions of silver nanoparticles are stable for many weeks. Possible medicinal applications of these silver nanoparticles are envisaged.

Keywords: Metals; X-ray Diffraction; Infrared spectroscopy; Microstructure, Environment-friendly nano particles

Eco-friendly Insect Management, Ernst A Wimme, Nature Biotechnology,

Volume 23, No. 4, April 2005,432 – 433p.

ISSN: 1087-0156 EISSN: 1546-1696

Genetic engineering promises to improve a technique for controlling medflies that avoids chemical insecticides. In area-wide control programs, a genetic method called the Sterile Insect Technique¹ (SIT) can be used to successfully suppress economically important pest species. SIT involves mass production of the target pest, sterilization by irradiation and sustained release over entire regions of large numbers of sterilized insects, which reduce the native population through infertile matings.

Keywords: Eco-friendly, Insect Management

International Trade and the Environment: Theoretical and Policy Linkages, J. Peter Neary, Environmental and Resource Economics,

Volume 33, Issue 1, January 2006, 95-118p.

Print ISSN 0924-6460 | Online ISSN 1573-1502

Author has reviewed and extended three approaches to trade and environmental policies: competitive general equilibrium, oligopoly and monopolistic competition. The first two have surprisingly similar implications: deviations from first-best rules are justified only by constraints on policy choice (which motivates what author call a “single dividend” approach to environmental policy), and taxes and emissions standards differ in ways which reflect the Le Chatelier principle. Author also shows how environmental taxes may lead to a catastrophic relocation of industry in the presence of agglomeration effects, although not necessarily if there is a continuum of industries which differ in pollution intensity.

Keywords: Environmental Policy, International Trade Policy, Location And Economic Geography, Pollution Abatement, Strategic Trade Policy

Green Chemistry and Nanofabrication in a Levitated Leidenfrost Drop, Ramzy Abdelaziz, Duygu Disci-Zayed, Mehdi Keshavarz Hedayati, Jan-Hendrik Pöhls, Ahnaf Usman Zillohu, Burak Erkartal, Venkata Sai Kiran Chakravadhanula, Viola Duppel, Lorenz Kienle and Mady Elbahri, Nature Communications 4,

Article number: 2400, October 2013

Green nanotechnology focuses on the development of new and sustainable methods of creating nanoparticles, their localized assembly and integration into useful systems and devices in a cost-effective, simple and eco-friendly manner. Here we present our experimental findings on the use of the Leidenfrost drop as an overheated and charged green chemical reactor. Employing a droplet of aqueous solution on hot substrates, this method is capable of fabricating nanoparticles, creating nanoscale coatings on complex objects and designing porous metal in suspension and foam form, all in a levitated Leidenfrost drop. As examples of the potential applications of the Leidenfrost drop, fabrication of nanoporous black gold as a plasmonic wideband superabsorber, and synthesis of superhydrophilic and thermal resistive metal–polymer hybrid foams are demonstrated. We believe that the presented nanofabrication method may be a promising strategy towards the sustainable production of functional nanomaterials.

Keywords: Chemical Sciences, Materials Science, Nanotechnology, Green Chemistry, Eco friendly

Deoxygenation of Exfoliated Graphite Oxide under Alkaline Conditions: A Green Route to Graphene Preparation, Fan, X. et al. *Advanced Materials*,

Volume 20, Issue 23, December 2, 2008, 4490–4493p.

Stable graphene suspensions are prepared using a new, green, and intriguing synthetic route. Graphene can be directly prepared by the fast deoxygenation of exfoliated graphite oxide in strong alkaline solutions at low temperatures (50–90 °C), in the absence of reducing agents. This study opens an opportunity towards the production of processable graphene on an industrial scale. This new method using mild reaction conditions offers an environmentally friendly approach for the mass production of graphene from graphite oxide. The researchers are currently exploring the mechanisms involved in this alkaline deoxygenation, evaluating the properties of the resulting graphene, and preparing new graphene-based composites.

Keywords: Deoxygenation; Graphene; Graphitic Materials; Green Chemistry

Organically Modified Nano sized Starch Derivatives as Excellent Reinforcing Agents for Bionanocomposites, Mayur Valodkar and Sonal Thakore, Carbohydrate Polymers,

Volume 86,

Issue 3, 30 August 2011, 1244–1251p.

Researchers have produced a new filler material for rubber products using modified nanocrystals obtained from maize starch. Organic modification of starch nanoparticles was carried out at room temperature to obtain nanosized hydrophobic derivatives. The particle size of the modified starch nanoparticles obtained by transmission electron microscopy (TEM) and X-ray diffraction (XRD) was found out to be around 50 nm. The hydrophobic starch derivatives were used to prepare bionanocomposites of natural rubber by mastication process. The properties were compared with composites obtained from untreated starch nanoparticles and carbon black. Up to 30 phr of the fillers were successfully incorporated leading to an enhancement in mechanical as well as thermal properties. Scanning electron microscopy (SEM) revealed single phase morphology of nanobiocomposites indicating compatibility of the filler and matrix. Dynamic mechanical properties were seen as a broad tan delta peak over a large range of temperature. It was observed that modified starch nanoparticles could be a potential substitute for carbon black as reinforcing agents and as promising materials for vibration damping applications. The study opens up a new and green alternative to make filler material for rubbers.

Keywords: Nanocomposites; Stress/strain curves; Thermal properties; Dynamic mechanical thermal analysis; Transmission electron microscopy

Labelling for Environmental Purposes: A review of the state of the debate in the World Trade Organization, tkn thematic paper, Tom Rotherham, Trade Knowledge Network, January 2003, 34p.

The present paper considers whether there is any reason to believe that WTO members might finally resolve an eight-year old debate on eco-labelling. It reviews the history of discussions and singles out some particularly important issues. It also considers the obstacles facing the Committee on Trade and Environment (CTE). A review of the main issues and the history of discussions, as well as a consideration of the state of the current debate, suggests that there are significant structural and substantive obstacles in the way of a resolution. It is not yet possible to predict a positive outcome from the work in the CTE on eco-labelling.

Keywords: Environmental Labelling, WTO, Eco labelling

Green Sunscreen, Danielle Twilley, University of Pretoria, South Africa, Paper presentation during annual conference on “Scientific Pursuit for Agerasia” held on Sept. 11-12, 2013 at the Bytes Conference Centre in Midrand, South Africa.

Author has presented her paper outlining some of the dangers of sun exposure and then types of ingredients that can be used in sunscreens. The skin is the bodies’ first defence barrier and protecting it against sun damage is the most important component in maintaining healthy skin. Protection from the sun is becoming increasingly important due to the increase in UV radiation in South Africa and globally due to ozone depletion caused by increase usage of CFC’s. Overexposure to the sun can cause skin aging, wrinkles, age spots and loss of elasticity. Unhealthy skin can have adverse effects on the bodies’ health but can also lead to faster skin changes which effects emotional well-being.

Through ongoing research two lead plants shown to exhibit great antioxidant potential have been identified. Both the actives showed good antioxidant capacity in the DPPH assay with a 50% inhibitory concentration (IC50) of 9.2µg/ml and 1.17µg/ml for S1 and S2 respectively. Furthermore in accordance with SANS1557 guidelines both S1 and S2 passed clinical trials as SPF boosters. During SPF testing the standard achieved an SPF value of 16.5 and in addition with the S1 and S2 actives achieved higher results of 17.3 and 18.0 respectively. The reduction in erythema was great enough for both actives to increase the SPF value of the standard, which is due to the potent antioxidant effect which reduces the formation of free radicals during UV irradiation. Isolated compounds from S1 and S2 have been identified as potent antioxidants in the DPPH assay. Compounds isolated from S1 were identified as 2, 4, 5-trihydroxydihydrochalcone (C1), 2, 6, 4-trihydroxy-4-methoxydihydrochalcone (C2) and 2,6-dihydroxy,4-methoxychalcone (C3) with IC50 values of 0.895µg/ml, 2.0µg/ml and 8.72µg/ml respectively. Compounds present in S2 were identified as Myricetin, Myricitrin and Gallic acid with IC50 values of 0.95µg/ml, 1.85µg/ml and 0.818µg/ml respectively.

The selected actives (S1 and S2) therefore reduced UV-induced erythema, which was great enough to increase the SPF potential of the standard by scavenging the free radicals caused by UV irradiation.

Keywords: Green Sunscreen, Green Cosmetics

Who Needs Cream and Sugar When There Is Eco-Labeling? Taste and Willingness to Pay for “Eco-Friendly” Coffee, Patrik Sörqvist, Daniel Hedblom, Mattias Holmgren, Andreas Haga, Linda Langeborg, Anatole Nöstl, and Jonas Kågström, PLoS ONE,

Vol.8, No.12, 2013 9 p.

Participants tasted two cups of coffee, decided which they preferred, and then rated each coffee. They were told (in lure) that one of the cups contained “eco-friendly” coffee while the other did not, although the two cups contained identical coffee. In Experiments 1 and 3, but not in Experiment 2, the participants were also told which cup contained which type of coffee before they tasted. The participants preferred the taste of, and were willing to pay more for, the “eco-friendly” coffee, at least those who scored high on a questionnaire on attitudes toward sustainable consumer behavior (Experiment 1). High sustainability consumers were also willing to pay more for “eco-friendly” coffee, even when they were told, after their decision, that they preferred the non-labeled alternative (Experiment 2). Moreover, the eco-label effect does not appear to be a consequence of social desirability, as participants were just as biased when reporting the taste estimates and willingness to pay anonymously (Experiment 3). Eco labels not only promote a willingness to pay more for the product but also lead to a more favorable perceptual experience of it.

Keywords: Eco label, Eco-Friendly Coffee, Sustainable Consumer Behavior,

Exports of Environmental Goods and Services (EGS): Exploiting the Global Demand, Kaliappa Kalirajan and Van Son Nguyen 2014, Manufacturing, 82-87p.

There is a huge potential in India for exporting environmentally friendly goods that will attract a tariff. India needs to make appropriate policy changes to enable it to take advantage of this huge and growing market. An exploration of the data and a measurement of the gap between potential exports and actual exports in these environmentally friendly goods market, using a model developed by the authors, throw up evidence that Indian governance constraints have had a huge negative effect on the exports of environmentally friendly goods.

Keywords: Eco label, Eco-Friendly Goods

Policy Focus: Financing Green Construction, Kirti Nagrath,
Development Alternatives, November 2013, 8-10p.

This article focuses on construction sector of India and how this sector has significant potential to make significant and cost effective reduction in green house gas (GHG) emissions. The market for growth for green buildings in India is projected as three fold between 2011 and 2014. The footprint of buildings certified by the Indian Green Building Council (IGBC) is currently over 1130 million m². So there is considerable potential for promotion of green buildings to reduce environmental impact of construction and urbanisation. The article gives emphasis on engaging financial sectors to boost this sector and provides recommendations. It ends with “there is a need for policy and markets to move together to overcome the initial upfront cost barrier while creating demand and supply for affordable eco construction.” The article has also listed names of organizations and finance companies fund for eco construction.

Keywords: Eco Labels, Indian Green Building Council, Green House Gas

Eco-labelling: Success or Failure? Camilla C. Erskine and Lyndhurst Collins, *The Environmentalist* 17, 125-133, 1997

Department of Geography, University of Edinburgh, Drummond Street, Edinburgh, EH8 9XP, UK

Print ISSN 0251-1088 | Online ISSN 1573-2991

Ecolabelling was identified in Agenda 21 as a way of encouraging consumers to alter their consumption patterns and to make wiser use of resource and energy in the drive for sustainable development into next century. A European-wide eco-labelling scheme was introduced by the European Commission (EC) in 1992 as part of its fifth and most recent Environment Action Plan, the focus of which is also sustainability. The EC eco-labelling scheme aims to promote products with reduced environmental impacts throughout their life cycle and to provide consumers with better information about the environmental impact of products. This paper assesses whether eco-labelling is an effective means of improving the environment, using the ecolabelling of paper products as case study. Paper products are examined because the development of their ecolabelling criteria has been a particularly complex and contentious issue. More, although criteria have now been adopted for three groups of paper products, controversy has dominated the criteria setting process and debate continues about the relevance of the selected criteria. It is concluded that while the concept is not straightforward. Furthermore, at present, there is little evidence of eco labeling benefitting the environment.

Keywords: Eco Labels, Agenda 21, EC eco-labelling

Consumers' perceptions of 'green': Why and how consumers use eco-fashion and green beauty products, Marie-Cécile Cervellon and Lindsey Carey, *Critical Studies in Fashion & Beauty*, Volume 2 Issue 1-2, December 2011, 117-138p.

ISSN: 20404417 | 20404425

The market for green products is expanding worldwide in a variety of industries, such as food, fashion and cosmetics. However, there is little research about consumer behaviour regarding green fashion and beauty, or consumers' knowledge of green labels and certifications. This article explores these issues through a qualitative research approach, using in-depth interviews and focus groups. Results suggest that consumers do not understand the meaning of all terms and labels used to describe and guarantee green products, such as, for example, eco-labels on organic cosmetics. Regarding the motivation of consumers for consuming eco-fashion and green beauty products, protection of the environment is not a priority. Respondents' motives for purchasing these products appear to be egocentric and related to health. Also, such purchases constitute a 'license to sin': they relieve the guilt of non-environmentally-friendly behaviors. Lastly, motivation for consuming eco-fashion is based on self-expression (mainly a North American motivation) and status display (mainly a continental European motivation). For several continental Europeans, purchasing green products appears to be a new form of conspicuous consumption.

Keywords: Eco-Fashion, Green Cosmetics, Eco Labels, Ethical Products, Consumer Motivation

Learning for lower energy consumption, Charlotta Isaksson,
International Journal of Consumer Studies, Volume 38, Issue 1, pages 12–
17, January 2014

Energy-efficient technologies are not just objects that might enable households to carry out more sustainable practices; they are tools, and using them effectively requires certain skills and knowledge. Households' difficulties in handling home heating and hot water technologies in particular have been highlighted as an obstacle to meeting energy conservation objectives. This has given rise to calls for improved support based on how the households define their activities and handle these technologies. By deploying a socio-cultural theory of learning and using in-depth interviews with households that have recently purchased renewable heating systems, this paper examines various situations in which people have learnt to use the technologies, and it discusses lessons learnt that may be useful for developing support. The results demonstrate three common learning approaches and identify situations where the learning process runs smoothly and where it does not. The conclusions suggest strategies for helping households overcome the resistance embedded in the interaction with the technologies, and they highlight the importance, when developing support, of starting with what creates meaning in various situations.

Keywords: Household; Energy; Technology; Learning; Appropriation

Consumers' Knowledge Of Textile Label Information: An Exploratory Investigation, Daleen van der Merwe, Magdalena Bosman, Susanna Ellis, Nadia van der Colff, Mary Warnock, *International Journal of Consumer Studies*, Volume 38, Issue 1, pages 18–24, January 2014

ISSN 1470-6423

Textile label information facilitates consumers' pre- and post-purchase decisions. Because consumers' knowledge regarding this information is relatively unexplored in a South African context, it was the focus of this exploratory descriptive study. A face-to-face survey was employed among respondents (n = 120) recruited at selected public locations in Potchefstroom, North-West Province, South Africa, according to predetermined inclusion criteria. The majority of respondents were able to correctly locate specific information (such as country of origin, size and fibre content; 75%) and identify textile and care symbols (78%) on the label, but were less knowledgeable about synthetic fibres (41%) and certain care symbols (53–58%). More educated, younger respondents speaking Eurocentric languages (Afrikaans and English) appeared to be more knowledgeable about textile label information than respondents speaking an African language. Even though respondents had excellent label knowledge in most instances, a lack of practical application of this knowledge was evident in their reading of care labels pre- and post-purchase, as well as in their use of textile labels to make purchasing decisions. Educational programmes regarding textile labels should thus emphasize the skills that are necessary to optimally utilize labels.

Keywords: Consumer; Clothing; Knowledge; Label Use; South Africa; Textile Label

Consumers' willingness to buy products with environmental and ethical claims: the roles of social representations and social identity, Jos Bartels¹, Marleen C. Onwezen, *International Journal of Consumer Studies*, Volume 38, Issue 1, pages 82–89, January 2014

This study investigates how social representations and consumers' identification with organic food consumers affects intentions to buy products that make environmental and ethical claims. For the purposes of the study, an online panel study was conducted on a representative sample of consumers (n = 1006) in the United Kingdom. The results demonstrate that consumers who are adherent to natural foods or technology and do not perceive food as a necessity are more willing to buy environmentally friendly and ethical products. There seems to be no relationship between perceptions of food as a source of enjoyment and intentions to buy sustainable products. Finally, social identification with the organic consumer is positively related with the intentions to buy products that make environmental and ethical claims. The current research demonstrates that both individual perceptions of food and consumers' perceptions of the social environment play an important role in promoting environmentally friendly and ethical behaviour.

Keywords: Social Representations; Social Identity; Environment; Ethics; Willingness to buy

Towards an understanding of consumer recycling from an ethical perspective, Barbara Culiberg, *International Journal of Consumer Studies*, Volume 38, Issue 1, pages 90–97, January 2014

Recycling is a post-purchase consumer activity where the consumer usually considers not only individual but also social goals, ideas and ideologies. Accordingly, ethics is an inherent part of recycling; however, very few studies have explored this behaviour from an ethical point of view. The purpose of this paper is to explain consumer recycling by taking a multifaceted ethical approach. The conceptual model builds on theoretical underpinnings related to ethical consumption by exploring the extensions of the theory of planned behaviour, Jones' ethical decision-making model and Holbrook's conceptualization of ethical consumption. Thus, the attitude-intention framework incorporates three ethics-related concepts: (1) moral obligation, i.e. the level of guilt to perform the behaviour, (2) moral intensity, i.e. the moral issue characteristics, and (3) collectivism, i.e. an individual-level value orientation. The data were collected from a sample of Slovenian consumers, using an online consumer panel. The sample reflected the Slovenian population in terms of gender and age. The proposed conceptual model was tested using structural equation modelling. The results suggest the proposed ethical concepts play a significant role in the attitude-intention framework. The more collectivistic individuals have more positive attitudes towards recycling. Moreover, the more consumers perceive recycling as morally intense, the more favourable their attitudes are. In turn, attitudes positively affect intentions to recycle. In addition, higher levels of moral obligation positively influence intentions to recycle. The only hypothesis that is not supported in this study refers to the influence of moral intensity on intentions to recycle. The implications for public policymakers and social marketers stem from a complex interplay of the antecedents of recycling behaviour. Future studies could go in several directions by extending the model to other moral issues, conducting a study in a cross-cultural setting or taking a longitudinal approach.

Keywords: Recycling; Pro-Environmental Behaviour; Ethical Consumption; Moral Intensity; Moral Obligation; Collectivism

Using Community-Based Social Marketing Techniques to Enhance Environmental Regulation, Amanda L. Kennedy, *Sustainability* 2010, 2, 1138-1160p.

ISSN 2071-1050

This article explores how environmental regulation may be improved through the use of community-based social marketing techniques. While regulation is an important tool of sustainability policy, it works upon a limited range of behavioural ‘triggers’. It focuses upon fear of penalty or desires for compliance, but individual behaviour is also affected by beliefs and values, and by perceived opportunities for greater satisfaction. It is argued that more effective environmental laws may be achieved using strategies that integrate regulation with community-based social marketing. Case studies where community-based social marketing techniques have been successfully used are examined, and methods for employing community-based social marketing tools to support environmental regulation are proposed.

Keywords: Community-Based Social Marketing; Environmental Regulation

Eco-labels: A short guide for New Zealand producers , Ann Smith and Cerasela Stancu, Business & Sustainability Series, Briefing Paper 2

ISSN 1177-3731

Eco-labels have been around for almost three decades and, although the use of some eco-labels is growing, their effectiveness is still being investigated. This briefing provides an overview of the main eco-label categories, their meaning and specifications, and explores their use in a trade context. It concludes by recommending areas for further research to determine the actual environmental and economic benefits of eco labelling.

Keywords: Ecolabels, Greenwash, Categories of eco-label

Enabling Developing Countries to Seize Eco-Label Opportunities: Project Background Paper, Dirk Scheer, Dr. Frieder Rubik and Stefan Gold, Heidelberg: Institute for Ecological Economy Research, 2008 77p.

This paper was written with initial contributions from the national partners and experts of the 'Enabling developing Countries to seize eco-label opportunities' project. It presents background information on eco-labelling covering history, definition and classification as well as current trends in policy and science. It provides detailed analyses of eco-labelling opportunities for target countries' key export sectors, and ends with main conclusions and recommendations.

This document is not for distribution and is not an official UNEP document. It has been prepared as a background for discussion at the Start-up Workshop of the 'Enabling developing Countries to seize eco-label opportunities' project, held in Bonn on 3-4 December 2007.

Sustainable Seafood and Eco-labelling: Research Report, Tavis Potts, The Marine Stewardship Council, UK, Consumers, and the UK Fishing Industry, 77p.

The Effectiveness of Eco-labelling and Certification in Sustainable Aquaculture and Fisheries (EECSAF) project was funded by the Economic and Social Research Council (ESRC) and conducted by the Scottish Association for Marine Science (Dr Tavis Potts). This report presents the findings of research conducted over the period of December 2007 to December 2009. Further supporting research was conducted across 2010. The research investigated the structure, management and operations of several of eco-labelling and certification organisations (CEOs), public awareness and attitudes concerning seafood labelling, and the views of the fishing industry. This report investigates the following questions with a focus on the UK and the Marine Stewardship Council (MSC):

- How does the Marine Stewardship Council implement its standard and what processes are in place to build credibility?
- What is the impact of certified products in the market? Do labeled products influence consumers?
- What are the experiences of industry in regards to the eco-labelling?

This report aims to influence debate about the direction and effectiveness of the eco-labelling movement, provide advice and analysis to interested parties, and pull together the latest data on the topic. In contrast to recent approaches, EECSAF has taken a critical and in-depth approach to analysis of institutional practices, consumer values and the perspectives of the fishing industry. Future reports will cover eco-labelling and certification in aquaculture and growing trends in this emerging sector.

Keywords: Eco labeling, Marine Stewardship Council, Certification in Sustainable Aquaculture and Fisheries

Legal and Policy issue in the Market Access Implications of Labelling for Environmental Purposes: Briefing Paper 2003,23p

This briefing paper is presented during the Sub-Regional Brainstorming Workshop (Asia) on the 'Specific trade and Environment Issues in Paragraph 31 and 32 of the Doha Ministerial Declaration in preparation for the Cancun WTO Ministerial Conference' held on 30 July-1 August 2003 at Bangkok. This briefing paper raises certain legal and policy issues arising from the use of labeling for environmental purposes (ecolabels) in international trade, and the implications for market access, particularly for developing country products. Of particular note are transparency issues relating to the design and implementation of voluntary eco-labelling schemes; the criteria used in the design of eco-labels which increasingly reflects the life cycle of products: the WTO treatment of the distinction between so called 'like products' the use of process and production methods in that distinction; and the appropriate level and forum for addressing many of the issues.

Keywords: Eco labeling, International Trade, Trade and Eco label, WTO

**Differential Importance of Ecolabel Criteria to Consumers, Lina Gordy,
Institute for Agriculture and Trade Policy, Minneapolis, April 15, 2003**

Present consumption patterns are not sustainable on a global level. Therefore, curtailment of the use of natural resources in human societies is necessary (Ryan, 1995). Proper ecolabeling could potentially reduce environmental impacts of consumption but without consumer interest, these programs are doomed to fail (EPA, 1993a, 1994). Labeling is an educational tool that also helps consumers identify environmentally preferable products (EPA, 1993a). However, in addition to choosing labeling solely to address environmental impacts, it is also necessary to focus the labels to address what is important to consumers. When choosing what products should be awarded a label it is important to decide what issues should be addressed.

Keywords: Eco labeling, Sustainability, Environment Protection Agency

Consumer Preferences for Eco, Health and Fair Trade Labels: An Application to Seafood Product in France, Dorothee Brécard, Sterenn Lucas, Nathalie Pichot, and Frédéric Salladarré, Journal of Agricultural & Food Industrial Organization. Volume 10, Issue 1, April 2012

ISSN (Online) 1542-0485

How are consumer attitudes towards eco-labeled products affected by a profusion of labels? This article provides both theoretical and empirical insight into this issue. Assuming that consumers perceive a label both as a sign of quality and of a particular characteristic of a product, authors deduce theoretical determinants for preferences for three types of label: a health label, an eco-label and a fair trade label. Using a French survey on seafood products, the estimation of a rank-ordered multinomial logit with random intercepts shows a certain proximity between the profiles of pro-eco-label and pro-fair trade label consumers, whereas pro-health label individuals have a more distinct profile: The two former are more likely to be young men mainly concerned with fishing conditions, whereas the latter are older married women with children who pay attention to the product form. Authors relate preferences for labels to degree of altruism, environmental consciousness, and other socio-economic features.

Keywords: Environmental Preferences, Contingent Choice, Eco-Label, Seafood

Eco-labels, Trade and Protectionism, Mads Greaker, Environmental & Resource Economics Volume 33, Issue 1, January 2006, 1–37p.

ISSN: 0924-6460 | ISSN: 1573-1502

Eco-labels are suspected to serve protectionist purposes. The article analyses the choice between an environmental standard and a voluntary eco-label scheme in a partial trade model with one domestic firm and one foreign firm. The environmental standard will only apply to the domestic firm, while both firms can adopt the eco-label. Pollution is production related, and domestic consumers demand products that are produced in an “environmentally friendly” way. The results show that it may be optimal for the domestic government to introduce an eco-label and get both firms to adopt the label, instead of setting an environmental standard. However, to what extent this policy serves protectionist purposes is ambiguous. In particular, if the willingness to pay for green products is sufficient to cover the pollution abatement costs of the foreign firm, foreign firm profit will increase while domestic firm profit will decrease compared to the outcome with a domestic environmental standard. On the other hand, if the willingness to pay for green products is insufficient, the foreign firm would be better off with a domestic environmental standard.

Key words: Eco-Labels, Product Differentiation, Trade Policy

Promoting Sustainable Consumption: Good Practices in OECD Countries, OECD 2008, 62 p.

This report highlights OECD government initiatives to promote sustainable consumption, with an emphasis on individual policy tools and instruments and their effective combination. Here, the sustainability of consumption is considered in economic, environmental, and social terms. Sustainable consumption policies increasingly take into account the social and ethical dimensions of products and how they are produced as well as their ecological impacts. It discusses government tools and instruments (e.g. standards, taxes, subsidies, communications campaigns, education) put in place to encourage sustainable consumption. It also discusses approaches for protecting consumers from misleading information on sustainability in areas such as labelling, advertising and corporate reporting. This study is part of the OECD contribution to the UN Marrakech Process on Sustainable Consumption and Production.

Key words: Eco-Labels, Sustainable Consumption, UN Marrakech Process, OECD

On the Interaction of Eco-Labeling and Trade, Charles F. Mason, January 2007, 36 p.

While environmental certification can provide useful information to consumers, there is concern that it indirectly erects trade barriers. Author had constructed a two-country model where some firms use an environmentally-unfriendly (brown) production technology in each country, while other firms use environmentally-friendly (green) techniques. There are two green techniques, one in each country. Obtaining the eco-label entails certification costs; green firms in the exporting country must bear an additional cost to obtain the eco-label. I discuss the impact of eco-labeling on the quantities of green goods produced in each country and resultant welfare impacts, and the impact of changes in labeling costs. This research was funded in part by the National Science Foundation. The paper were presented at the Heartland Environmental and Resource Economics Conference at Iowa State University, the BIOECON workshop on "Trade Mechanisms for Biodiversity Conservation," held in Tilburg, the Netherlands, and at the 7th Occasional Workshop on Environmental and Resource Economics at Santa Barbara, California.

Keywords: Eco-Labeling, Asymmetric Information, Screening

Environmental Quality Provision and Eco-labelling: Some Issues, Laura Valentini and Vesta SpA Venice, Genève: Economic Research and Statistics Division, World Trade Organization, Working Paper ERSD-2005-02, June 2005, 26p.

This working paper is a literature survey of some relevant issues arising from environmental quality provision and eco-labelling schemes. First of all it is shown how the two topics are strictly related. Firms adopting a production process (or producing a good) more environmentally friendly than others (environmental quality provision aspect) may want to make it public (eco-labelling aspect). The survey addresses the question of optimal environmental quality provision (also as a policy tool) and firms compliance. With regard to eco-labelling, its impacts on market structure are analysed. It hasn't been possible to consider all issues, like for example that of moral hazard in providing non truthful information. Different issues related to trade are also analysed, even if the literature is not abundant on this yet. In the literature both aspects, of environmental quality provision and eco-labelling, are analysed using product differentiation models. The usual result is that multiple equilibria arise depending also on the parameters. Models are also not robust to different assumptions. Environmental quality provision and eco-labelling are also compared to more traditional policy instruments like taxes (or subsidies) and standards. From the empirical evidence it can be concluded that information plays a crucial role both for consumers' and producers' decisions. Consumers are willing to pay a higher price to be informed about the greenness of a good, and a label can really be a determinant in their choice of which brand to purchase. On the supply side, disclosing information about the environmental performance of a firm can affect investment decisions and its stock value.

Keywords: Eco-Labeling, Trade, Consumers

Increasing the Benefits of Voluntary Eco-labeling Schemes, Jennifer Jahnke, Monterey Institute of International Studies' Master of Arts in Commercial Diplomacy,37p.

It explains how consumers were particular about green products during 1990s and became increasingly concerned with the environmental affects of their purchasing decisions, and they began demanding significant quantities of “environmentally friendly” products. Consumers’ demands forced government and industries to manufacture products which were less harmful to environment and encourage producers to switch to environmentally sound production process methods (PPMs). It discusses the background of eco-labeling programs and attempts to negotiate a protocol on eco-labels in the WTO.

It discusses the international and domestic dimension of political analysis. It has recommended for a global eco-label scheme. The global label would be particularly beneficial to developing country producers because it would enable exporting countries to develop their own eco-labeling criteria that reflect their own environmental priorities and technology levels. This paper was researched and written to fulfill the M.A. project requirement for completing the Monterey Institute of International Studies’ Master of Arts in Commercial Diplomacy. It was not commissioned by any government or other organization.

Keywords: Eco-Labeling, Trade, GATT, WTO

Environmental Requirements in the WTO: Developmental Challenges of the Least Developed Countries with a Particular Reference to Bangladesh, Pradip Royhan, Macquarie Journal of International and Comparative Environmental Law (MqJICEL) , Volume 9, No. 1, 2013, 15p.

ISSN: 1448-8345

Environmental standards such as labelling, packaging and sanitary standards (often characterised as non-trade barriers or NTBs) are becoming an increasing concern amongst the international trading community. Historically such standards have burdened producers and exporters for developing economies where a drop in net exports may infringe on their ability to access markets of developed nations. Conversely, developed economies demand compliance with minimum environmental standards, often resulting in criticisms of 'ecoimperialism'. The purpose of this paper is to examine the complex relationship between trade and the environment, with a particular emphasis upon the impact that international laws which regulate production methods has upon developing economies. This paper shall also canvass the developing economy of Bangladesh as a case study for this analysis. It concludes with the view that international trade liberalisation and environmental protection are inseparably linked and mutually supportive. The Revision of Article XX of GATT would be a better option centered on achieving the environmental goals, keeping in mind the developmental needs of developing countries. Moreover, this paper emphasises the need for reform of specific articles such as the SPS and TBT Agreements relating to environment derived under Article XX of GATT.

Keywords: Eco-Labeling, Trade, GATT, TBT Agreements

Jute Ecolabel: criteria Document, Pricewaterhousecoopers (PwC), Kolkata: Pricewaterhousecoopers 2006, 46p.

Jute Manufacturers Development Council (JMDC), Ministry of Textiles, GoI has given the responsibility to PwC Sustainable Business Solutions, India to conduct a study leading to the development of a voluntary, ecolabelling for six Indian Jute products. PwC on behalf of and with support from JMD has laid down the draft criteria for the ecolabel. PwC has identified the six selected jute products and studied the impact on the environment from jute products. This study has defined these six categories and given the ecolabel protocol of these six products. It narrates the life cycle assessment of these products in detail. Ecolabel criteria selected for six product categories have been presented. The environmental requirements required to comply with jute growing, manufacturing, handling and storage, transportation, and recycle reuse potential and the procedures to be followed for applying for an ecolabel is given in length. The disposal protocol for jute is also mentioned in this document. This document is useful jute manufacturers, exporters and the stakeholders.

Keywords: Eco-label; Jute Eco label; Jute Products

A conceptual framework for analyzing consumers' food label preferences: An exploratory study of sustainability labels in France, Quebec, Spain and the US, Lydia Zepeda, Lucie Sirieix, Ana Pizarro, François Corderre, and Francine Rodier, International Journal of Consumer Studies, Volume 37, Issue 6, pages 605–616, November 2013

ISSN 1470-6423

In a qualitative study of 375 consumers in France, Quebec, Spain and the US, respondents are asked to choose between pairs of actual food labels and to describe the reason(s) for their choice. The food labels included sustainability labels (eco-labels, Fair Trade, origin) as well as product attribute (e.g. quality, kosher) and health/nutrition labels. Respondents' reasons were coded in the original language using the same coding system across all four nations to examine their preferences for label message, design and source. Authors also examined the role of consumers' values, beliefs and experiences on their label choices. The coding system was drawn from a review of theoretical and empirical literature and provides a conceptual framework that calls the Label Consumer Interaction model for evaluating consumers' food label preferences. Although this is case study, the results point to substantial differences across nations in terms of preferred labels, as well as the rationale for their choice in terms of attributes of the labels and consumer characteristics.

Keywords: Eco-label; fair trade; label consumer interaction model; sustainable consumers

Consumer Attitudes toward Environmentally-Friendly Products and Eco-labeling, The GfK Roper Yale Survey on Environmental Issues, Connecticut: Yale School of Forestry & Environmental Studies, 2008, 20p.

More than ever before, consumers face a plethora of labels making claims about the environmental-friendliness of products. The uses of labels are promoted in hopes of ameliorating diverse environmental harms and are sponsored by various organizations, including government agencies, industry groups and environmental groups. This study sought to understand the perceptions of eco-labels and environmentally-friendly products held by Americans and Canadians. The key findings are that 1) Most Americans are willing to purchase environmentally-friendly products, but other considerations such as price and quality often take priority and 2) Americans are familiar with some, but not all eco-labels. The sponsors of eco-labels are not trusted equally. It is a series of quarterly national telephone surveys on a variety of environmental topics. Each survey is collaboration between survey researchers at GfK Roper Public Affairs & Media and scholars at the Yale School of Forestry and Environmental Studies. Survey sought to understand the perceptions of eco-labels and environmentally-friendly products held by Americans and Canadians.

Keywords: Eco-label; fair trade; label consumer; sustainable consumers; environmental-friendliness of products

The overall classification of residential buildings: Possible role of tourist EU Ecolabel award scheme, Giorgia Peri and Gianfranco Rizzo, Building and Environment, Volume 56, October 2012, Pages 151–161

The debate on the environmental performance of buildings and their classification is continuously rising and deeply involves all actors of the sector, from researchers to technicians and from owners to real estate managers. In the field, the EU has created a panel that is currently working on defining the criteria for attributing an Ecolabel award to a building. However, despite the enormous efforts made by administrative and academic institutions, a suitable and widely available scheme for operators to assess the environmental performance of a building is far from being established. To help provide a solution to the problem, the possibility of adopting the EU Ecolabel scheme established for tourist facilities for the overall ranking of buildings is discussed in this work. A corresponding procedure between residential buildings and hotels is presented, along with a simple score method for ranking the buildings. The methodology can be seen as a simplified Ecolabel scheme for analysing and ranking the environmental performance of buildings. It could be used temporarily until the pending definition of a generally accepted method for analysing and ranking the environmental performance of buildings is set and could be usefully adopted by local administrations to define the impact of different policy scenarios concerning urban building parks. An application is also presented to evaluate the coherence of this proposal with those actually in use for the energy and environmental appraisal of buildings.

Keywords: Residential buildings; EU Ecolabel brand; Tourist accommodations; Tourist Ecolabel award; Overall quality of buildings

The use and usefulness of carbon labelling food: A policy perspective from a survey of UK supermarket shoppers, Zaina Gadema and David Oglethorpe, Food Policy, Volume 36, Issue 6, December 2011, Pages 815–822

Both the process of carbon footprinting and carbon labelling of food products are currently voluntary in the UK. Both processes derive from the UK's policy for sustainable development and in particular, the UK's Framework for Environmental Behaviours that strongly advocates a social marketing approach towards behavioural change. This paper examines whether carbon footprinting and labelling food products, borne from an overarching policy imperative to decarbonise food systems, is a tool that will actively facilitate consumers to make 'greener' purchasing decisions and whether this is a sensible way of trying to achieve to a low carbon future. We do so by drawing from a survey exploring purchasing habits and perceptions in relation to various sustainability credentials of food products and particularly 'carbon', using a combination of descriptive and cluster analysis. The data, from 428 UK supermarket shoppers, reveals that whilst consumer demand is relatively strong for carbon labels with a stated preference rate of 72%, confusion in interpreting and understanding labels is correspondingly high at a total of 89%, primarily as a result of poor communication and market proliferation. Three statistically distinct clusters were produced from the cluster analysis, representing taxonomies of consumers with quite different attitudes to carbon and other wider sustainability issues. Whilst the majority of consumers are likely to react positively to further carbon labelling of food products, this in itself is unlikely to drive much change in food systems. As such, the data imply that a concerted policy drive to decarbonise food systems via voluntary carbon footprinting and labelling policy initiatives is limited by a fragmented and haphazard market approach where retailers are being careful not to disaffect certain products by labelling others within the same category. Consumers may want to make choices based on the carbon footprint of products but do not feel empowered to do so and relying on consumer guilt is inappropriate. The paper concludes that the establishment of effective linkages between food policy and food market actors to drive a targeted and coherent carbon labelling policy is needed. This would provide consumers with the opportunity to make informed choices, especially within food product categories and negate the need for retailers to depend on the demand side of the supply chain to achieve carbon reduction targets.

Keywords: Carbon footprint; Carbon label; Food policy: sustainable development; Behavioural change; Consumer demand

Customer Response to Carbon Labelling of Groceries, Jerome K. Vanclay, John Shortiss, Scott Aulsebrook, Angus M. Gillespie, Ben C. Howell, Rhoda Johanni, Michael J. Maher, Kelly M. Mitchell, Mark D. Stewart and Jim Yates, Journal of Consumer Policy, Volume 34, Number 1, 153-160, March 2011

Thirty-seven products were labelled to indicate embodied carbon emissions, and sales were recorded over a 3-month period. Green (below average), yellow (near average), and black (above average) footprints indicated carbon emissions embodied in groceries. The overall change in purchasing pattern was small, with black-labelled sales decreasing 6% and green-labelled sales increasing 4% after labelling. However, when green-labelled products were also the cheapest, the shift was more substantial, with a 20% switch from black- to green-label sales. These findings illustrate the potential for labelling to stimulate reductions in carbon emissions.

Keywords: Carbon label, Ecological footprint, Emissions reduction, Green consumers, Consumer environmental purchasing behavior

Varieties of Environmental Labelling, Market Structures, and Sustainable Consumption Across Europe: A Comparative Analysis of Organizational and Market Supply Determinants of Environmental-Labelled Goods, Sebastian Koos, *Journal of Consumer Policy*, Volume 34, Number 1, 127-151, March 2011

The purchase of environmental-labelled goods is an important dimension of sustainable consumption. Existing research on environmental labels and sustainable consumption has a rather individualistic bias. Organizational and structural determinants have only recently sparked attention. In this paper, a comparative framework is used to analyse the impact of organizational varieties of environmental labelling and market supply characteristics on purchases of environmental-labelled goods in 18 European countries. Focusing on labels for organic food and ecological durables, the plurality of existing labels as well as state involvement into labelling are used as the central dimensions constituting the organizational varieties. Market structures refer to the supply of labelled goods and the dominant retailing channels that make up the infrastructure for this dimension of sustainable consumption. After giving an overview on the underlying theoretical mechanisms of the main determinants, country differences in the organization of environmental labelling as well as the market structures are outlined. To analyse the effect of these differences, individual level data of a 2007 Eurobarometer survey on purchases of environmental-labelled goods is combined with organizational and market structural indicators. Using random intercept regression models and controlling for individual socio-economic and aggregate market demand-side factors, like average per capita income, share of post-materialists, and level of generalized trust, only the market supply and retailing structure reveal a robust effect on individual purchases of environmental friendly labelled goods.

Keywords: Sustainable consumption; Organic food; Eco-label; Labelling; Europe

Organic Tomatoes Versus Canned Beans: How Do Consumers Assess the Environmental Friendliness of Vegetables?, Christina Tobler, Vivianne H. M. Visschers, Michael Siegrist, Environment and Behavior January 9, 2011

The assessment of a food product's environmental friendliness is highly challenging for consumers because such an assessment requires the consideration of various product characteristics. Furthermore, products often show conflicting features. This study uses a choice task and a questionnaire to examine how consumers judge the environmental friendliness of several vegetables. The consumers' assessment is compared with life cycle assessment (LCA) results, which represent the overall environmental impact of a product throughout its lifespan. In contrast to the LCA, consumers consider transportation distance rather than transportation mode and perceive organic production as very relevant for the environmental friendliness. Furthermore, consumers assess the environmental impact of packaging and conservation as more important than the LCA results show. Findings also suggest the current product information for vegetables is insufficient for judging their environmental friendliness. Implications for information campaigns and ecological food labeling are discussed.

Keywords: food choice, ecological labeling, environmental assessment, sustainable consumption, consumers' beliefs, life cycle assessment

Evaluation and legal assessment of certified seafood, Rainer Froese and Alexander Proelssb, Marine Policy, Volume 36, Issue 6, November 2012, Pages 1284–1289

This study presents a legal review of international treaties to derive sound definitions of overfishing. It examines seafood stocks that were certified by the Marine Stewardship Council (MSC) or Friend of the Sea (FOS). Stock size and fishing pressure were compared with the internationally agreed reference points which both organizations have accepted. No suitable status information was found for 11% (MSC) to 53% (FOS) of the certified stocks. For the stocks with available status information, 19% (FOS) to 31% (MSC) had overfished stock sizes and were subject to ongoing overfishing. An analysis of legal implications of certification of overfished stocks suggests that a certifying body cannot be held liable for a violation of internationally agreed standards unless the domestic law of its home country so regulates. States may ban the import of fish products from overfished stocks, but only in very specific cases. Possible causes for the certification of overfished stocks are discussed and recommendations are given on how the certifiers could improve their performance. The study concludes that it is still reasonable to buy certified seafood, because the percentage of moderately exploited, healthy stocks is 3–4 times higher in certified than in non-certified seafood.

Keywords: Seafood certification; Eco-labels; Sustainable fishing; Maximum sustainable yield; Law of the sea; Code of conduct for sustainable fishing

A Study On Consumer's Perception For Green Products: An Empirical Study From India, Sabita Mahapatra, International Journal of Management & Information Technology (IJMIT), Volume 7, No. 1, November 2013, 925-933p.

ISSN 2278-5612

The last three decades have seen a progressive increase in worldwide environmental consciousness due to rising evidence of environmental problems. Environmental protection is increasingly becoming a necessity and part of a bigger agenda in the urbanising world of developing countries. Given the increasing deterioration of the environment, India as a developing country need to prevent pollution and preserve its natural resources. Environmental attitudes constitute a significant part of environmental consciousness. Therefore, this paper empirically investigates the attitude of Indian consumers towards the environment in general. A survey was developed and administered across India. A total of 162 Indian consumers responded and completed the questionnaire. The present paper made an attempt to understand the factor that influences environment conscious behaviour for green products. The finding of the study would help government to better understand consumers' environment conscious behaviour, for developing effective environmental policies required to reinforce green purchase. Moreover, companies will have insight about how to profile green consumers in India, to develop effective messages that will functionally and emotionally appeal to their target customers.

Keywords: Environmental conscious attitude and behavior

On Export Rivalry and the Greening of Agriculture — The Role of Eco-labels,
Arnab K. Basu, Nancy H. Chau, and Ulrike Grote, Agricultural Economics,

Volume 31, Issues 2–3, December 2004, 135–147p.

Online ISSN: 1574-0862

Why do some countries establish their own national eco labeling programmes and others do not? This study presents theoretical arguments and empirical evidence suggesting that the answers to this question can shed new light on three questions that have taken centre stage in the trade and environment debate: (i) does trade exacerbate the exploitation of the environment; (ii) are countries competing in export markets engaged in a race to the bottom in environmental performance; and (iii) do market based environmental instruments benefit the rich and hurt the poor? This paper focuses on the adoption of labeling in the agricultural sector. It provides an overview of eco-labeling initiatives in agriculture world-wide, and examines the unconditional adoption pattern of eco-labeling in agriculture for 66 countries.

Keywords: Eco-labeling in Agriculture, Export Rivalry, Strategic Complementarity

Eco labeling: Overview and Implications for Developing Countries, Eckart Naumann University of Cape Town: Development Policy Research Unit, DRDU

Policy Brief No. 01/P19, October 2001, 10p.

This policy brief attempts to provide a brief introduction to eco labeling, and some of the implications thereof for developing countries. Eco labeling by implications links environment with trade and market access issues. Due to vast number of issues relating to this topic, it is only possible to draw attention to some of the more important, mostly non technical ones. This scientific basis used in developing the various product criteria, precludes one from altogether ignoring the technical issues involved.

Keywords: Eco-labeling in developing countries, Ecolabelling, Trade and Market access

Eco-Labeling Strategies: The Eco-Premium Puzzle in the Wine Industry,
Magali A. Delmas and Laura E. Grant, University of California, Santa Barbara,

Paper 12, 2008, 36p.

Eco labeling signals that a product has been eco-certified. While there is increasing use of eco labeling practices, there is still little understanding of the conditions under which eco labels can command price premiums. In this paper, authors argue that the certification of environmental practices by a third party should be analysed as a strategy distinct from although related to advertisement of the eco certification through a label posted on the product. By assessing eco labeling and eco certification strategies separately, it will be easy to identify benefits associated with the certification process independently from those associated with the actual label. More specifically, it is argued in the context of the wine industry that eco certification can provide benefits, such as improved reputation in the industry or increased product quality, which can lead to a price premiums of wine due to the eco certification of grapes using 13, 4000 observations of wine price, quality rating, varieties, vintage, and number of bottles produced, for the period 1998-2005. Overall, certifying wine increases the price by 13%, yet including an eco label reduces the price by 20%. This result confirms the negative connotation associated by consumers with organic wine. The price premium of this luxury good due to certification acts independently from its label, a confounding result not previously demonstrated by related literature.

Keywords: Eco-labeling, Wine Industries, Wine, Ecolabelling in wine industries

Introduction to Ecolabelling: Information Paper, Global Ecolabelling Network (GEN), 2004, 17p.

This document provides an introduction to ecolabelling¹ -- general objectives, guiding principles, key features, and some indicators of success. It is prepared by GEN to make understand the meaning of Ecolabelling in public domain. It has defined the term ecolabelling and three types of environmental performance labeling identified by ISO. It discusses Guiding Principles for Ecolabelling and role of multiple stakeholder participation in any ecolabelling initiative at length. It has measured the success of eco labeling programmes and its role in the improvement in environmental quality of certified products, industry participation, and consumer recognition.

Keywords: Eco-labeling, GEN, Ecolabelling programme, ISO

A Guide to Environmental Labels - for Procurement Practitioners of the United Nations System, Sustainable United Nations, UNOPS, 2009, 38p.

This document was developed in cooperation with UNEP experts, addresses the lack of guidance for procurement practitioners who approach the challenging but promising world of environmental labels. This guide sheds light on the nature of different environmental labels, ecolabels, product declarations and many other logos that, more or less accurately, aspire to define the environmental performance of consumer products. It also explains how to use environmental labels in the context of UN procurement and how to avoid misuses and misconceptions commonly found in the booming “green” market. This guide should help procurement practitioners safely navigate this complex area, to use environmental labels more effectively and transparently, and to enhance the sustainable performance of their tenders.

Keywords: Eco-labeling, Environmental Labels, Green Market, Green Procurement

Ecolabels and fish trade: Marine Stewardship Council certification and the South African hake industry, Stefano Ponte, tralac Working Paper No. 9/2006, 2006, 66 p.

This study is based on original fieldwork of second case study collected in a series of three studies on the political economy of standards on food safety, social and environmental impact, quality management and geographic origin. It covers standards in two export oriented fish industries- Nile perch in Uganda (food safety and quality management standards) and hake in South Africa (Marine Steward Council standard). It provides taxonomy of ecolabels in fisheries and discusses the history and general characteristics of the Marine Stewardship Council (MSC) initiative, and the criticism that has been levied against it. It examines the political economy of adoption, implementation and further verification of the MSC standard in the South Africa hake industry. It places the MSC case study in a comparative setting drawing from other sustainability initiatives in timber and coffee. It also examines whether ecolabels are in breach of WTO disciplines. Conclusion drawn from this study is that independent auditing, transparency of standard-settings, accountability, and the need for standards to be based on 'good science', are not enough to facilitate certification in small scale developing country fisheries.

Keywords: Eco-labeling, Wine Industries, Wine, Ecolabelling in wine industries

Lost in a sea of green: Navigating the eco-label labyrinth,

Magali A. Delmas, Nicholas Nairn-Birch, and Michaela Balzarova, UCLA Institute of the Environment, 2012, 12p.

Eco-labels are widely used to invoke consumer demand for environmentally friendly goods. Many firms are using eco-labels to achieve economic goals by, for example, differentiating their products, mitigating regulatory scrutiny, and gaining access to lucrative green procurement practices. However, the number of new eco-label programs has grown rapidly – from a mere dozen worldwide in the 1990s to more than 427 programs today – with little quality control. For managers, choosing the appropriate label can be risky: a poorly designed label may confuse consumers, attract accusations of greenwashing, and/or ultimately prove to be a fruitless investment. In this article, we describe a framework that evaluates eco-labels along three dimensions – consumer understanding and awareness, consumer confidence, and willingness to pay – and develops a set of recommendations to help managers choose the most effective labeling option.

Keywords: eco-labels, sustainable strategy, environmental management

Environmental Regulations as Trade Barriers for Developing Countries: Eco- Labelling and the Dutch Cut Flower Industry, CREED working paper no. 2,

Harmen Verbruggen, Onno Kuik, Martijn Bennis, Amsterdam: The Institute for Environmental Studies, July 1995, 19p.

The present expansion of environmental standards and regulations in industrialised countries can have significant impacts on market access of developing countries. The fear in many developing countries is that stricter product standards in the markets of developed countries will act as trade barriers for their exports. Moreover, there is widespread suspicion that environmental restrictions are sometimes used as an indirect means of protecting northern industries. This paper briefly examines these issues, focusing on recent eco-labelling schemes for cut flowers in the Netherlands. The paper concludes that those eco-labels may have a significant negative impact on the export opportunities of a number of developing countries.

Keywords: eco-labels, sustainable strategy, environmental management

Eco-labels: Trade Barriers or Trade Facilitators?: Discussion Paper, Simi T.B. Jaipur: CUTS-CITEE, 2009, 7p.

This discussion paper evaluates the potential of eco-labels to be trade facilitators and conversely trade barriers. Which potential is harnessed more depends upon factors such as technology transfer, information dissemination, the modalities of designing and administering these labels etc. The paper takes the approach of 'first principles' by defining eco-labels and elaborating on objectives and classification of these labels. It brings out the potentially conflicting impacts of eco-labels in terms of protectionism and trade facilitation and illustrates this discussion through an elaboration of the Indian case. The paper analyses the relevance of eco-labels for the WTO and vice-versa, and concretises this discussion through elucidation of some of the major disputes triggered by eco-labels.

Keywords: Eco-labels, Trade Barrier, Trade Facilitators

WTO and Product-Related Environmental Standards Emerging Issues and Policy Options,

EPW Special Article, Sachin Chaturvedi and Gunjan Nagpal, 2003, 16p.

This article examines, in the Indian context, the issues of the linkage between exports from developing countries and the regulatory standards set by developed-country importers for food safety, quality and environmental norms. In particular, it looks at environmentally-sensitive goods, as environment concerns have in the recent past encompassed a large section of trade. This paper aims at examining the emerging issues in the Indian context. It takes stock of the trends in trade of environmentally sensitive goods and India's position in the south Asian context. It analyses the whole issue of translocation of dirty industries to India on the basis of available evidence. It has identified certain emerging challenges, and gives concluding remarks and policy recommendations.

Keywords: Eco-labels, Environmental Standards, WTO

The European Union Eco-labelling Scheme, P Jackson, Surface Coatings International April 1999, Volume 82, Issue 4, pp 172-176

ISSN 1356-0751

The EU Ecolabel was launched in 1992 to provide an official label to help consumers to deal with the confusion caused by 'green claims'. Eco-labelling criteria were developed from a cradle-to-grave study of the environmental effects associated with the life-cycle of the product. A four-year study on indoor paints and varnishes resulted in criteria which relating to effects of the manufacture of white pigments and the VDC content of the product. The scheme has been reviewed and the Commission is proposing changes intended to improve its effectiveness.

Keywords: Eco label, EU Eco label, Paints

Aspects of Service Quality and Ecolabelling of Romanian Lodging Services, Tomescu Ada Mirela, Annals of Faculty of Economics 1(1):693-699 2011.

Tourism has a significant environmental, economic and socio-cultural impact, which makes it important for environmental initiatives. The Rio Earth Summit (1992) was a milestone for these initiatives, having introduced the concept of sustainable development, its major principles and recommendations of implementation. So, the ecological movement grew globally more and more by widely disseminated actions among various bodies as the governments, associations, businesses, academics, NGOs and communities. In European Union eco-labelling scheme, is "a voluntary initiative to promote products and services which have the potential to reduce negative environmental impacts, as compared to the other products and services in the same product or service group, thus contributing to the efficient use of resources and a high level of environmental protection. This shall be pursued through the provision of guidance and accurate, non-deceptive and scientifically based information to consumers on such products and services". In fact this is official approach known as EU-Ecolabel Scheme, launched in 2005. In general, the idea of sustainable development, and eco-attitude of many of the activities carried out in different economic sectors have been encouraged to be certified, and to adopt sustainable practices to improve their environmental practices, and to inform and educate their clients regarding their friendly-environmental policies. The tourism sector adopted all of these. One by one in hospitality industry have emerged new trends, new destinations. Some of these trends are as well connected to environmental policy, eco-initiatives that certify EMS (Environmental Management System) and to use of eco-label in hospitality industry. For years, the tourism sector in Romania was declared a strategic sector. Within this framework, we decided to examine this area, the specific topic of eco-labelling and quality of lodging services in Romania. This paper proposes a short examination by observation of studies dedicated to lodging eco-label services and their quality based on a comparative analysis between Romanian supply of tourism "green services" and international one. This study has as a result a synthetic perspective on eco-label services and some aspects on the state of art of this topic in Romanian and international context of lodging services.

Keywords: Environmental Policy; Environmental Management System; Tourism; Lodging Services; Quality of Services; Eco-Labelling; Romania

Eco-labelling Scheme for Buildings in Hong Kong, C.K. Chau, J. Burnett, W.L. Lee, Facilities, Vol. 17 Issue 3/4, 120 – 126p, 1999

Over the last ten years voluntary labelling schemes such as energy labels and eco-labelling have become increasingly popular within the property sector. However, since the schemes are voluntary in nature their success generally depends on the environmental response of both the property owner and the facility manager. This paper discusses the prerequisites for introducing a successful energy and eco-labelling scheme in Hong Kong. The paper also introduces a cost-benefit analysis associated with Hong Kong's accredited criteria for eco-labelling. Finally, the paper examines the controversial issue of linking eco-labelling to property valuation.

Keywords: Eco labeling, Eco labeling Scheme in Hong Kong, Voluntary Eco Labelling Scheme

Selection of product categories for a national eco-labelling scheme in developing countries: a case study of Vietnamese manufacturing sub-sectors, Van Nam Thai, Tohru Morioka, Akihiro Tokai, Yugo Yamamoto, Takanori Matsui, Journal of Cleaner Production; 18(14):1446-1457, 2010

Although the selection of product categories is a deciding factor for the success of eco-labelling schemes, there are no consistent methods for determining selection factors and how to prioritise product categories for developing countries (DgCs). This paper attempts to identify appropriate factors for product category selection and formulate a prioritisation method applicable to DgCs. We first examined the selection factors currently utilised in schemes worldwide by conducting a questionnaire survey of representatives of foreign schemes. Selection factors were illustrated on a plot graph, which indicated the percentage of factors implemented in the schemes of DgCs and developed countries (DGs), and their plausibility assessed when utilised in the schemes of DgCs. In this way, we proposed three groups of factors: an exclusion factor, five core factors and seven operational factors. Then, under the conditions of DgCs, such as socioeconomic issues and availability of data, we used and modified some judging guidelines of the European Ecolabel (the EU Flower), e.g. determining the environmental impacts and potential of environmental improvements, in the scoring method to prioritise product categories by weighting factors. In light of our findings, we utilised the proposed factors and modified the scoring method to prioritise the screened primary list of product categories of Vietnamese manufacturing sub-sectors. By scoring factor-based questions and prioritising in three ways, i.e. following the scoring method of the EU Flower programme, totalling all values with equal weighting, and totalling all values but by doubling the weighting of core factors compared with operational factors, we observed that the weighted prioritisation differentiates priority product categories more clearly than the other methods. We propose the two highest potential candidates for eco-labelling in Vietnam, namely textile/garment and fishery products.

Keywords: Product Categories, EU Flower, European Eco Label

Selection of Product Categories for a National Eco-Labeling Scheme in Developing Countries: A Case Study of Vietnamese Manufacturing Sub-Sectors, Van Nam Thai, Tohru Morioka, Akihiro Tokai, Yugo Yamamoto, Takanori Matsui, Journal of Cleaner Production 18(14):1446-1457, 2010.

Although the selection of product categories is a deciding factor for the success of eco-labelling schemes, there are no consistent methods for determining selection factors and how to prioritise product categories for developing countries (DgCs). This paper attempts to identify appropriate factors for product category selection and formulate a prioritisation method applicable to DgCs. We first examined the selection factors currently utilised in schemes worldwide by conducting a questionnaire survey of representatives of foreign schemes. Selection factors were illustrated on a plot graph, which indicated the percentage of factors implemented in the schemes of DgCs and developed countries (DGs), and their plausibility assessed when utilised in the schemes of DgCs. In this way, we proposed three groups of factors: an exclusion factor, five core factors and seven operational factors. Then, under the conditions of DgCs, such as socioeconomic issues and availability of data, we used and modified some judging guidelines of the European Ecolabel (the EU Flower), e.g. determining the environmental impacts and potential of environmental improvements, in the scoring method to prioritise product categories by weighting factors. In light of our findings, we utilised the proposed factors and modified the scoring method to prioritise the screened primary list of product categories of Vietnamese manufacturing sub-sectors. By scoring factor-based questions and prioritising in three ways, i.e. following the scoring method of the EU Flower programme, totalling all values with equal weighting, and totalling all values but by doubling the weighting of core factors compared with operational factors, we observed that the weighted prioritisation differentiates priority product categories more clearly than the other methods. We propose the two highest potential candidates for eco-labelling in Vietnam, namely textile/garment and fishery products.

Keywords: Eco labeling, EU Flower,

Wood based panel products: technology road map, C. N. Pandey, S. K. Nath, D. Sujatha, Journal of the Indian Academy of Wood Science Vol. 8(2). 2013

Despite substitution of wood by several other materials like plastics, steel, aluminium etc., wood is still regarded as one of the most versatile raw materials especially in the construction/building sectors. The consumption of industrial wood has risen over the last decade in every region of the world. Also there is a positive correlation between consumption of industrial wood and national income. It has been estimated that the present demand for industrial wood in India is 54 million cubic meters, while the availability is estimated as 30 million cubic meters. To meet the growing need of demand and supply, R&D support is very much needed to provide the acceleration to assure the growth and prosperity of wood and wood based panel industry in future. Wood based panel products industry needs innovative technology solutions that can transform the way traditional wood-derived products are made and enable significant improvements in environmental footprint, manufacturing efficiency and productivity. There are five categories of driving forces which have made impact on the wood and engineered wood product technologies viz., raw material supply, manufacturing costs, product attributes and performance and environment friendly innovative products. Development of formaldehyde and volatile organic compound emission free binder for panel products, formulation of product standards at par with international standards, enhancement of service life of products by treatment with eco friendly preservatives, development of bio adhesives, and fire resistant panel products are some of the priority research areas that need to be investigated. In India, grain and other seeds are the main products of the farming activity and there is great interest in developing uses for residues that are currently burned or ploughed back into the ground. India alone produces more than 400 million tones of agricultural waste annually. Evolving technologies for the substitution of wood by using these non-wood renewable fibers from agro residues and bamboo are another important research area which needs to be worked out to meet the growing demand of panel products. In today's highly sensitive environment, both products and the process have to conform to certain environmental standards and therefore studies like life cycle analysis, carbon footprints and energy auditing on all next generation engineered wood products need to be investigated. The purpose of carrying out forestry/forest products research today should be to generate benefit for the people by the application of new knowledge generated so far in the field of natural resource management. There is a need for user friendly and problem solving thrust in the field of research, education and extension.

Keywords: Eco products, Woods, Eco labelling

The Potential Role of Carbon Labeling in a Green Economy, Mark A. Cohen and Michael P. Vandenbergh, Draft Prepared for “Perspectives on the Green Economy” Special Issue of Energy Economics, January 2012

Over the past few years product labels focusing on a wide range of environmental and social metrics have proliferated. Unlike traditional warning labels that have a direct impact on consumers, much of the benefit associated with the product attribute being labeled is a public good. Labeling schemes are often developed and promoted by non-profit organizations – sometimes with competing labels within the same product category. This paper examines the role of carbon product (“carbon footprint”) labeling in promoting a green economy. Although little empirical evidence has yet been generated with respect to carbon footprint labels, much can be learned from our experience with similar product labels. We first review the theory and evidence on the role of product labeling in affecting consumer behavior. Next, we consider the role of governments and non-governmental organizations – and conclude that whether mandatory or voluntary, there is an important role for international, multi-stakeholder organizations to be involved in setting protocols and carbon labeling standards. In particular, we argue that it is important to consider the entire life-cycle of a product being labeled and to develop an international standard for measurement and reporting. We also argue that for carbon labels to have any significant impact on global carbon emissions, prioritization of product categories should be based on current and potential life-cycle emissions levels as well as the potential for consumer and producer behavioral changes. Finally, we turn to the question of the potential impact of carbon product labeling and examine the trade issues associated with labels.

Keywords: Carbon labels; voluntary disclosure; consumer behavior; life-cycle analysis; rebound effect; leakage.

Eco-labelling: Challenges and Opportunities for Small States and LDCs, Michanne Haynes, Economic Affairs Division of the Commonwealth Secretariat, Issue 95, 2012, 8p.

ISSN: 2071-8527 | 2071-9914

This issue of Commonwealth Trade Hot Topics highlights some of the challenges and also opportunities faced by exporters from small states and least developed countries (LDCs) heavily dependent on export markets where the use of voluntary eco-labelling schemes is continuing to grow, particularly in the agri-foods sector.

Keywords: Eco labelling, Eco labeling Schemes

WTO-Related Matters in Trade and Environment: Relationship between WTO Rules and MEAs, Aparna Sawhney, Working Paper No. 133, New Delhi: Indian Council For Research On International Economic Relations, May 2004, 92p.

This study examines the relationship between specific trade obligations under certain multilateral environmental agreements (MEAs) and WTO environmental provisions in the negotiations under paragraph 31(i) of the Doha Ministerial Declaration. The paper analyzes how environmental provisions have permeated into the multilateral trading system over the last two decades, through the incorporation of environmental provisions under new WTO agreements, and a wider interpretation of the GATT Article XX exceptions in the post-WTO regime through trade-environment disputes. The analysis considers six MEAs in detail: the Convention on International Trade in Endangered Species of Wild Flora and Fauna; the Montreal Protocol on Substances that Deplete the Ozone Layer; the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal; the Cartagena Protocol on Biosafety; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; and the Stockholm Convention on Persistent Organic Pollutants. The paper examines the trade provisions within the six MEAs and their compatibility with existing GATT/WTO rules.

Keywords: Environmental, systematically. Trade, Environment, WTO

Trade and the Environment in the WTO, Steve Charnovitz, Journal of International Economic Law, Vol. 10, September 2007; GWU Legal Studies Research Paper No. 338; GWU Law School Public Law Research Paper No. 338. 30p.

The linkage between trade and the environment stands out as an important challenge in global economic governance. Over the past decade, the WTO devoted considerable attention to this issue and included it on the agenda of the Doha Round. In parallel, the jurisprudence on trade and the environment has experienced significant advances. This study provides an overview of the main institutional changes at the WTO and of the developments in the jurisprudence most relevant to the interaction between the environment and trade. Specifically, this study focuses on GATT Article XX and takes note of many positive (and a few negative) features of the key Appellate Body decisions.

Keywords: globalization, GATT, WTO, World Trade Organization, environment, trade, Doha, ITO, multilateral environmental agreement, MEA, trade and environment, trade-related environmental measures, TREM, international governance, global governance

Informing Green Markets: The Roles of Industry, NGOs and Government, Thomas P. Lyon and Julian Dautremont – Smith, Erb Institute Report No. 101, 2010, 8p.

This document summarizes key lessons from a recent conference hosted by the Erb Institute for Global Sustainable Enterprise at the University of Michigan, where representatives from each of these (and other) efforts gathered to share their work and identify opportunities for collaboration. Entitled “Informing Green Markets: The Roles of Industry, NGOs and Government,” the conference was held from June 17-19, 2010. It was designed to explore the role of information in making green markets work, and to highlight key research needs. It discussed about the proliferation of and competition among ecolabels which has both good and bad consequences. Designs of ecolabels program have an impact on market and B2B market, not consumers, is driving demand for detailed information about the social and environmental attributes of the products. Studies have been done into how ecolabel design and level of detail affect consumers and producers behavior.

Keywords: Green Markets, Ecolabel, Designs of Ecolabel

Eco Friendly Lighting-it's about so much more than CFLs, Matt Beswick, Ethical Consumer, Sept/Oct 2013, 29 p.

ISSN 0955 8608

In 2011, there was a wide ban of incandescent light bulbs in European Union. UK had introduced the new style eco friendly lights. This banned was based on its inefficiency. So CFLs had replaced the old style bulbs. But now the LED-sustainable and efficient lighting has taken the market. The CFLs are now fast becoming a stop-over solution as lighting experts work to reduce costs and make LED a viable option for consumers. This article describes how LEDs are more efficient and cost effective than alternatives. It lasts 25, 0000 hours – 25 times longer than an incandescent. The money saving figures indicate that LEDs is not just good for the environment it is also economically enticing. It is advised that to save environment and money consumer should consider the LED lamps alongside the well-known CFL.

Integration of eco-design tools into the development of eco-lighting products,

Jose Luis Casamayor and Daizhong Su, *Journal of Cleaner Production*, Vol. 47, 32-42p, 2013

Lighting products are widely used nowadays; however, their environmental impact is considerable and should be reduced. In order to contribute to the reduction, a novel eco-lighting product has been developed. The product has a number of eco-features, such as using LED as its lighting source and recycled polyethylene terephthalate (PET) material for its casing. Different eco-design tools were integrated into the design process, to significantly reduce the product's environmental impact. In this paper, the eco-design tools are introduced first, including databases, prescriptive tools, and analytical tools; then a detailed presentation is given to show how the tools were integrated in the product design specification, conceptual design, detail design and evaluation. A prototype of the product has been tested and compared with an existing LED lighting product of the same category, which was designed not following an eco-design method. The test and comparison results show that the new eco-lighting product performs the required functions with less environmental impact than the existing lighting product.

Keywords: Eco-design, Lighting products, Environmental assessment tools, Design methods

New Approaches to Ecolabelling of Paints in Ukraine, Nina V. Merezko; Oksana G. Zolotarova, Forum Ware International 2 (2011), 6p.

This paper reveals the results of long standing collaboration of the government, science and business representatives aimed to reduce environmental impacts during production, application and disposal of paints. The importance of environment protection problem and the impacts during manufacturing and consumption of paints raise an interest to development of methods to reduce such impacts. Eco-labeling acceptance has been growing worldwide as a market based instrument to promote pollution prevention and sustainability. The paints ecolabelling scheme was developed in Ukraine under the Program of ecolabelling carried out by the NGO “Living planet”, the member of Global ecolabelling network. Ecological aspects gain more importance, since the public is increasingly aware of environmental problems.

Keywords: Ecolabelling schemes, Ecolabelling criteria, Paints, Global Ecolabelling Network

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Keywords: Ecolabelling schemes, Ecolabelling criteria, Paints, Global Ecolabelling Network

Ethno-Cultural Differences and Consumer Understanding of Eco-Labels: An Empirical Study in Malaysia, Elham Rahbar and Nabsiah Abdul Wahid, Journal of Sustainable Development Vol. 3, No. 3; 255- 262p, September 2010,

ISSN 1913-9063 | 1913-9071

Firms have been using eco-label as a tool to inform consumers of the environmental characteristics of their products. The essential issue for marketers in international markets particularly in countries with multi- ethnic population such as Malaysia is to identify the existence of different ethnic groups and their responses (i.e. behavior) to their products. The purpose of this article is to examine whether different ethnic groups display different perception on eco-label. Results indicate that Malay, Chinese and Indian, the three major ethnic groups in Malaysia differ in their awareness, recognition and perception of the eco-label. The findings imply the importance of ethnicity whereby marketing managers should consider ethno-cultural differences when marketing and promoting their eco-labeled products in the market to achieve competitive advantage.

Keywords: Eco-label, Ethnic groups, Malaysia

Eco-Labeling Perspectives Amongst Malaysian Consumers, Rashid, Nik Ramli
Nik Abdul Canadian Social Science, Vol. 5 No. 2, March 2009

This study explores the Malaysian consumers' trust of an eco-label and the influence it has in their choice for the corresponding environment friendly product. Taking into consideration the infancy stage of the Malaysia green marketing initiative, traditional approach to evaluating local consumer receptiveness to the eco-label might not be suitable. This paper approaches the introduction of eco-label with two perspectives in mind. Firstly, while earlier studies from the western scholars use eco-label as a part of the augmented product, this study introduces eco-label as a separate moderating variable. Secondly, the choice of employees working in ISO 14001 certified organizations as the population explore a potentially conducive place to initiate a systematic effort in developing a green consumer community. The result is very encouraging. This study has shown that, with some exposure to environmental related experiences Malaysian consumer would indeed react positively to the eco-label. In fact, for situation that requires them to consider environmental aspects of a product that they wish to purchase, the eco-label will definitely be the crucial factor that will push them to make the right purchase choice.

Eco-labelling, Competition and Environment: Endogenization of Labelling Criteria, Adel Ben Youssef, Rim Lahmandi-Ayed, Environmental and Resource Economics, October 2008, Volume 41, Issue 2, pp 133-154

ISSN 0924-6460 | 1573-1502

This paper suggests a modelling of the labelling procedure consistent with empirical observations, that allows the endogenous calculation of labelling criteria. The authority in charge of the labelling program chooses the level of labelling criteria so as to maximise the social surplus, anticipating competition between firms in environmental qualities and prices. While accounting simply for the informational role of labels, this model allows to understand observed behavior such as firms' ignorance of a label, resistance, support or indifference of firms to the labelling program and the decision of the authority not to set up a label.

Keywords: Eco-label, Labelling criteria, Environmental quality, Price competition, Firms' position, C72, L13, Q20

International Trade, Eco-Labeling, And Sustainable Fisheries – Recent Issues, Concepts And Practices, Tavis Potts, Marcus Haward, Environment, Development and Sustainability

February 2007, Volume 9, Issue 1, pp 91-106

ISSN 1387-585X | 1573-2975

Certification of where, when and how fish are caught is emerging as an important fisheries management tool. The history of eco-labelling in the fisheries sector is relatively short and actual experiences of eco-labelling are limited, although an emerging trend is shaping in European and US markets. Eco-labelling in fisheries gained increased impetus with the development of the non-government Marine Stewardship Council (MSC) in 1996. This paper reviews the emerging importance of certification and eco-labelling in the fisheries sector, the development and operation of the MSC, identifying particularly the role of 'third party certification' as promoted by the MSC, and notes the opportunities and challenges for the MSC and eco-labelling in general.

Keywords: Certification, Eco-labelling, Fisheries, International trade, Marine Stewardship Council

Eco-Labeling for Buildings, Andreas Blum, Clemens Deilmann, Frank-Stefan Neubauer, Towards Sustainable Building, The GeoJournal Library Volume 61, 2001, pp 43-57

The dynamic character of the concept of sustainable development requires a continuous improvement of specific environmental performance in the building sector. Ecological construction that goes beyond general standards therefore needs voluntary engagement at the highest possible level. At the same time, outstanding ecological “better practice” in the construction industry often cannot be sufficiently distinguished by the general public from the growing number of overblown private eco-labelling schemes. Self-determined labels declaring a building (product) to be “ecological”, “environmentally friendly” or “sustainable” often appear largely arbitrary or highlight just single aspects of the overall environmental impact of a building. At the same time, existing assessment and labelling schemes are of an extremely varied nature, rendering comparison even more difficult. This article is the chapter of a book ‘Towards Sustainable Building’ edited by Nicola Maiellaro.

Keywords: Certification, Eco-labelling, Eco label for Building, Environmentally Friendly

Eco-labelling: success or failure?, Camilla C. Erskine, Lyndhurst Collins, Environmentalist, Volume 17, Issue 2, 1997, pp 125-133

ISSN 0251-1088 | 1573-2991

Eco-labelling was identified in Agenda 21 as a way of encouraging consumers to alter their consumption patterns and to make wiser use of resources and energy in the drive for sustainable development into the next century. A European-wide eco-labelling scheme was introduced by the European Commission (EC) in 1992 as part of its fifth and most recent Environmental Action Plan, the focus of which is also sustainability. The EC eco-labelling scheme aims to promote products with reduced environmental impacts throughout their life cycle and to provide consumers with better information about the environmental impact of products. This paper assesses whether eco-labelling is an effective means of improving the environment, using the eco-labelling of paper products as a case study. Paper products are examined because the development of their ecolabelling criteria has been a particularly complex and contentious issue. Moreover, although criteria have now been adopted for three groups of paper products, controversy has dominated the criteria-setting process and debate continues about the relevance of the selected criteria. It is concluded that while the concept of eco-labelling is good, the practical application of the concept is not straightforward. Furthermore, at present, there is little evidence of eco-labelling benefitting the environment.

Keywords: Certification, Eco-labelling, Eco label, Agenda 21, EU Ecolabel

Eco-Labeling and Environmental Policy Efforts in Developing Countries, Rasul Shams, *Intereconomics*, May/June 1995, Volume 30, Issue 3, pp 143- 149

ISSN 0020-5346 | 1613-964X

Eco-labelling has become an increasingly popular instrument in recent years. Among the new developments which have been called for are those they should also be used as a means of encouraging developing countries to apply stricter environment policies. The article investigates whether applying environmental seals of approval to the export products of developing countries is an efficient instrument for the purpose.

Keywords: Certification, Eco-labelling,

Large Scale Farming Without Toxic Pesticides is Still a Distant Dream, Sena Christian, Earth Island Journal, July 2013

Chemical fumigant use in California highlights the challenges of scaling up eco-friendly and economic alternatives writes author. The article describes about the pesticide methyl iodide as a proposed replacement for the fumigant methyl bromide, an ozone depleter being phased out by an international treaty. Farm workers, environmental groups, and top scientists raised the objection against the pesticide methyl iodide because it was not really a worthy alternative. Manufacturers pulled the pesticide off the United States market in 2012. Methyl iodide is used to control pest insects, nematodes, rodents, weeds and pathogens. It is carcinogenic and can cause brain damage and miscarriages among farm workers and handlers. It was a great success for pesticide watchdog groups but their fight for safe alternatives to synthetic pesticides is far from over. Large-scale farming still relies heavily on synthetic chemicals. Author has expressed her view that part of the problem is that, in terms of alternatives, a one-size-fits-all approach won't work as farmers deal with differing climates, landscapes, and soil types based on where they are located. Additionally, some so-called eco-friendly alternatives require significant amounts of resources, such as water. Farmers should be convinced for a move from using synthetic pesticides to sustainable farming practices.

Keywords: Eco friendly Pesticides, Toxic Pesticides

Legal And Trade Issues Related To Eco-Labeling: Bangladesh Perspectives, Jona Razzaque, Bangladesh Institute of International and Strategic Studies Journal Vol. 24, No.4, October 2003

This article raises certain legal and policy issues arising from the use of labelling for environmental purposes (eco-labels) in international trade, and the implications for market access, particularly for products from developing countries. Eco-labeling was identified as a significant area in Agenda 21 (1992) and in Doha Declaration (2001). More recently, the Johannesburg Plan of Implementation (WSSD, 2002) also recognized the importance of consumer information related to sustainable consumption and explicitly noted the need to continue work in this area. Eco-labels may potentially enhance the terms of trade of those developing countries able to accurately translate the mood of industrialized country consumers into environmentally friendly product development. There are also hopes that eco-labeling could provide new opportunities for attracting capital investment and joint ventures in developing countries, such as Bangladesh.

Keywords: Eco labelling, Eco label and Trade, Trade and law

Eco-labels are suspected to serve protectionist purposes. We analyze the choice between an environmental standard and a voluntary eco-label scheme in a partial trade model with one domestic firm and one foreign firm. The environmental standard will only apply to the domestic firm, while both firms can adopt the eco-label. Pollution is production related, and domestic consumers demand products that are produced in an “environmentally friendly” way. Our results show that it may be optimal for the domestic government to introduce an eco-label and get both firms to adopt the label, instead of setting an environmental standard. However, to what extent this policy serves protectionist purposes is ambiguous. In particular, if the willingness to pay for green products is sufficient to cover the pollution abatement costs of the foreign firm, foreign firm profit will increase while domestic firm profit will decrease compared to the outcome with a domestic environmental standard. On the other hand, if the willingness to pay for green products is insufficient, the foreign firm would be better off with a domestic environmental standard.

Keywords: Eco labelling, Eco label and Trade

Eco-labelling and the Trade-Environment Debate, Daniel Melser and Peter E. Robertson, *The World Economy*, Vol. 28, No. 1, pp. 49-62, January 2005,

In this paper authors consider the effectiveness of eco-labels as a substitute for alternative, but trade-restrictive, environmental policies. Specifically, while there are concerns that eco-labelling requirements increase the cost of international trade, due to their potential for misuse as technical trade barriers, little attention has been given to the environmental benefits of eco-labelling. It shows that incentive problems inherent in eco-labelling policies make it a very weak tool of environmental policy. Despite this, authors argue that eco-labelling schemes may remain popular, owing to the lack of alternative WTO compliant environmental policies. They also use this framework to consider the economic and political conflicts facing the EU with regard to its policies on genetically modified organisms.

Keywords: Eco labelling, Eco label and Trade

“International Trade – Environment” Relationship In The Context Of Sustainable Development, Margareta Timbur and Spiridon Pralea, CES Working Papers 279-299 p

The overall aim of this paper lies on presenting a short pragmatic image of the main aspects concerning the impact of international trade on the environment, on the one hand, and the impact of environmental policies and regulations on the international trade, on the other hand. Also, this article examines the multilateral environmental agreements (MEAs) focused on the use of environmental trade measures. In the same context, we discuss about the most important international institution with the regulatory powers in international trade – environment relationship which is considered to be GATT/WTO. Although, the international trade-environment relationship is a very debated internationally, in Romania it is not sufficiently addressed either theoretical or practical. Taking into account the transition period and the consequences of the global economic crisis which still will affect Romania a period of time; our country promotes simultaneous strengthening and optimizing of trade and environmental policies in sustainable development framework.

Keywords: eco-friendly goods; eco-label; environment; environmental standards; GATT/WTO; international trade; multilateral environmental agreements; trade liberalization.

Ecolabelling: Consumers' Right-To-Know Or Restrictive Business Practice?, Kristin Dawkins, Global Environment and Trade Study (GETS), GETS Paper #95-3 (An earlier version of this paper was presented at the Max Planck Institute for Comparative Public Law and International Law Symposium on "Enforcing Environmental Standards: Economic Mechanisms as Viable Means?" Heidelberg, Germany, July 5-7, 1995.)

In recent years, environmental concern has stimulated new initiatives in labeling policies, which have been used to protect consumer health and safety for more than a century. Voluntary "ecolabelling" schemes now exist in dozens of countries, as official governmental policy or promoted by non-governmental organizations, and internationally. As trade expands, international cooperation amongst ecolabelling schemes is required. Negotiated agreements based on equivalent environmental impacts or mutual recognition between national schemes is feasible, but only if there is a careful balancing of all interests. By definition, ecolabelling imparts preferential access to markets for producers complying with certain processing and production methods. Such discrimination may conflict with the GATT's Most-Favoured-Nation rules and certainly generates new competitive pressures amongst producers. In particular, producers with scarce capital may lose markets and low per capita income countries may lose valuable foreign exchange.

When ecolabelling criteria are stringent, producers lacking assured returns on their environmental investments may seek to undermine implementation. When ecolabelling criteria reflect a nation's domestic preferences, foreign producers may challenge them as trade barriers. When processing and production criteria are uninformed by an internationally standardized life cycle analysis, negotiations for equivalency and mutual recognition may fail. When producers are denied access to the ecolabelled market niche for any of these reasons, existing trends towards monopolistic global trade are exacerbated; ecolabelling itself may become a restrictive business practice enhancing the market shares of major transnational corporations. Especially when ecolabelling and certification bodies, or other decisionmaking institutions, are captured by powerful interests, the implementation of an effective ecolabelling policy may be impossible. In the present period of international institutional evolution, broad and balanced participation is essential to ensure both the design and the implementation of effective policies to achieve sustainable patterns of production and consumption.

Keywords: Eco-labelling, Consumer Rights, Voluntary Ecolabelling Scheme

Consumers' perceptions of individual and combined sustainable food labels: a UK pilot investigation, Lucie Sirieix¹, Marion Delanchy, Hervé Rемаud, Lydia Zepeda, Patricia Gurviez, International Journal of Consumer Studies, Volume 37, Issue 2, pages 143–151, March 2013

Consumers are facing with an increasing number of sustainable food labels. These different labels may be complementary or add to the increasing competition of product information in consumers' minds. We investigate: (1) the perceptions that consumers in the UK have about sustainable labels vs. other labels, such as origin or nutrition labels; and (2) consumers' reactions to combinations of different sustainable labels. Overall, the findings from two focus groups conducted in the UK indicate that consumers have positive perceptions of organic and fair trade labels but tend to be sceptical about unfamiliar labels and general claims such as 'climate friendly'. The results also indicate the importance of familiarity, trust and fit between combinations of labels as well as between associating a label with a brand. While the combination of certain labels can enhance the value of a food product, this study also indicates that other label combinations (e.g. private and sustainable label) can detract from a label's value. Implications and recommendations are suggested for managers to counter the image of greenwashing, and for policy makers to facilitate sustainable food choices.

Keywords: Consumer; focus groups; food; labels; trust; sustainability; greenwashing; climate friendly

Indoor decorating and refurbishing materials and furniture volatile organic compounds emission labeling systems: A review, LIU WeiWei, ZHANG YinPing, YAO Yuan, and LI JingGuang, Chin Sci Bull, Vol.57, No. 20, 2533-2543 p, 2012 ISSN 11434-012-5208-x

The volatile organic compounds (VOC) emitted from indoor decorating and refurbishing materials and furniture is recognized as one of the main causes of bad indoor air quality, which has resulted in serious economic losses. In European countries and the U.S., labeling systems for indoor decorating and refurbishing materials and furniture were established to address this issue with good effect. This paper is a review of these existing labeling systems. The basic principle of the labeling systems is introduced. The technical, policy and operational parts of the labeling systems are then discussed. The research concentrates on target pollutants, their threshold values and the testing methods employed. Some problems were uncovered in these labeling systems: too many VOCs were targeted; the method to determine the threshold values was not very rigorous; the testing time was too long (7–28 d). Some China's special features in developing such system are stated. Therefore, as the world's largest national producer and consumer of wood based panels and furniture, China should learn from foreign experience of establishing labeling systems as much as it can. However China should not simply copy the foreign approaches but develop its own scientific labeling system for indoor decorating and refurbishing materials and furniture.

Keywords: indoor air quality (IAQ), volatile organic compounds (VOCs), formaldehyde, emission, labeling, decorating and refurbishing materials, furniture

Awareness of Eco-label in Malaysia's Green Marketing Initiative, Nik Ramli Nik Abdul Rashid, International Journal of Business and Management, Vol. 4, No 8, 2009, 132-141 p.

ISSN 1833-3850 | 1833-8119

Consumer awareness of the environment and preference for more environmentally benign products appears to be growing steadily around the developed world and also some developing countries. The Malaysian government too has responded very positively to this challenge. In 1996 Standards and Industrial Research Institute of Malaysia (SIRIM) launched the national eco-labeling program verifying products according to environmental criteria such as Environmentally Degradable, Non-toxic Plastic Packaging Material, Hazardous Metal-Free Electrical and Electronic Equipment, Biodegradable Cleaning Agents and Recycled Paper. Federal Agriculture Marketing Authority (FAMA) has the Malaysia Best logo for environment friendly agriculture product and the Malaysian Energy Commission for energy efficient electrical products. But is the Malaysia consumer ready for the eco-label? Taking into consideration the infancy stage of the Malaysia green marketing initiative, traditional approach to evaluating local consumer receptiveness to the eco-label might not be suitable. This paper approaches the introduction of eco-label with two perspectives in mind. Firstly, while earlier studies from the western scholars use eco-label as a part of the augmented product, this study introduces eco-label as a separate moderating variable. Secondly, the choice of employees working in ISO14001 certified organization as the study population explore a potentially conducive place to initiate a systematic effort in developing a green consumer community. The result is very encouraging. This study has clearly shown that, with some exposure to environmental related experiences (such as those who were working with organization implementing the EMS) Malaysian consumer would indeed react positively to the eco-label. In fact, for situation that requires them to consider environmental aspects of a product that they wish to purchase, the eco-label will definitely be the crucial factor that will push them to make the right purchase choice.

Keywords: Eco-label, Environmental attitude, Knowledge of environmental issues, Green products, ISO 14001

Polish and Belgian consumers' perception of environmentally friendly behavior, Irene T. M. Roozen, Patrick De Pelsmacker, Journal of Consumer Studies & Home Economics

Volume 24, Issue 1, pages 9–21, March 2000,

ISSN 1470-6423

The aim of this study was to design a method for evaluating the importance that consumers place on the characteristics of environmentally friendly (EF) products and on consumer EF behaviour. Attitudes and opinions of consumers regarding the EF value of the different aspects of consumer behaviour – purchasing, using and disposing of goods – were measured. The perception of EF behaviour was analysed for Belgian and Polish consumers, a Western and an Eastern European country. The cultural, economic and political differences between Belgium and Poland may imply that their consideration of EF behaviour is different. The perception of consumers about buying, using and disposing of EF products does not necessarily indicate their own EF behaviour, but it gives an indication of what consumers think is EF behaviour. On the basis of the results, policy-makers and industry can diagnose the consumers' perceived cost–benefit relationship of EF consumer behaviour. An evaluation of what consumers think is EF can be made for the two countries. Marketers, government and EF organizations can draw on our research results when developing EF products and/or advertising campaigns.

**Eco–labelling and textile eco–labeling, Brian J McCarthy, Brian C Burdett,
Review of Progress in Coloration and Related Topics,**

Volume 28, Issue 1, pages 61–70, June 1998,

ISSN: 1478-4408

Importance of eco labeling and its philosophy in the life is increasing across the world. Eco labeling schemes- national and international is continuing to proliferate and causing confusion in the market place. The aim of this review is to provide the present status of different and major eco labeling schemes. It has specifically focused on the leading textile related schemes across the world. It has discussed the different EU textile eco labels which are national labels and so called private labels that cover a wider geographical area. The terminology distinguishes these from EU eco labeling policy.

It has discussed individually the private labels-Ecotex, Oekotex, and GuT and the national labels—Nordic Swan, Swedish Nature Conservation Society, Skal Organic, and Stitching Milieukeur.

Eco-Labels and International Trade in Textiles, Wesley Nimon and John C. Behgin

pages 31

Working Paper 99-WP 221, Center for Agricultural and Rural Development, Iowa State University

This paper provides a formal analysis of the welfare and trade implications of eco-labeling schemes. A simple model of vertical (quality) differentiation captures major stylized features of the textiles market in which trading takes place between an industrialized North (domestic) and a developing South (foreign). The paper investigates several labeling scenarios (labeling by North, labeling by both North and South, and harmonization). A labeling scheme in the North without the South's participation is detrimental to both the North's and the South's producers of conventional textiles. In aggregate, the North's textiles industry benefits from the introduction of the label. If the South creates its own label, it regains market share in aggregate, but at the cost of its conventional textiles sector; both of North's industries lose. Consumers gain with a wider choice and with higher quality of textile goods. They would favor upward international harmonization of eco-labels towards the higher quality of the North, as long as the South participates in production and provides some cost discipline.

Building Change with Green Technology, Kirti Nagrath, Development Alternative Newsletter,

Vol. 23 No. 4 page 1, 3, April 2013,

ISSN: 0974-5483

This article describes the building sectors as major contributors of greenhouse gas (GHG) emissions globally. The building sector is estimated to be worth 10% of global GDP (US \$ 7.5 trillion). India and China are presently going through a construction boom. It is expected that by the year 2018 China is going to be the world's leading construction market. Building use about 40% of global resources, 25% of the global water, and 40% of the global energy and are responsible for roughly one third of the global GHG emissions. In India the construction sector contributes approximately 22% of the national GHG emissions. It suggests that the green technologies for low carbon building material production and construction offer massive potential towards reduction of GHG emissions and resource consumption. It explained the advantages of green technology and using of energy efficient and environment friendly brick firing methods make the environment safer. Green Rating Standards like IGBC Green Homes, GRIHA, and BEE star rating for energy efficiency have also encouraged taking up green technologies. It concludes that the three bases for adoption of green technologies are favourable policies, easy access to finance, and efficient service. If all are in proper line, the true potential of green technology to mitigate environmental damage can be met.

Keywords: Green Technology, environment friendly, Green Construction

**The Drivers of Greenwashing, Delmas, Magali A. and Cuerel Burbano, Vanessa,
California Management Review**

Vol. 54, No. 1, Fall 2011, 64-87, Available at SSRN:

<http://ssrn.com/abstract=1966721>

More and more firms are engaging in greenwashing, misleading consumers about firm environmental performance or the environmental benefits of a product or service. The skyrocketing incidence of greenwashing can have profound negative effects on consumer and investor confidence in environmentally friendly firms and products. Mitigating greenwashing is particularly challenging in a context of limited and uncertain regulation. This article examines the external (both institutional and market), organisational and individual drivers of greenwashing and offers recommendations for managers, policymakers, and NGOs to decrease its prevalence.

Keywords: greenwashing, environmental performance, symbolic management, institutional pressures, corporate social responsibility, environmental policy, green marketing

Eco-Labeling Strategies and Price-Premium: The Wine Industry Puzzle, Magali A. Delmas and Laura E. Grant, Business Society March 11, 2010

Although there is increasing use of eco-labeling, conditions under which eco-labels can command price premiums are not fully understood. In this article, we demonstrate that the certification of environmental practices by a third party should be analyzed as a strategy distinct from—although related to—the disclosure of the eco-certification through a label posted on the product. By assessing eco-labeling and eco-certification strategies separately, researchers can identify benefits associated with the certification process, such as improved reputation in the industry or increased product quality, independently from those associated with the actual label. In the context of the wine industry, it shows that eco-certification leads to a price premium while the use of the eco-label does not.

Social influence on sustainable consumption: evidence from a behavioural experiment

Helen Arce Salazar¹, Leon Oerlemans, Saskia van Stroe-Biezen, International Journal of Consumer Studies, Volume 37, Issue 2, pages 172–180, March 2013

ISSN 1470-6423

Although social influence on consumers' behaviour has been recognized and documented, the vast majority of empirical consumer studies about sustainable products considers mainly, if not only, individual characteristics (socio-demographic attributes, individual environmental attitudes, etc.), to explain the decision to buy sustainable products. Making use of experimental methods, this paper studies the social influence that peer groups like colleagues, family and friends may exert in the decision to choose for environmentally friendly products rather than conventional ones. We also test for different types of social influence, in particular for 'herd behaviour' vs. 'social learning'. In our experimental setting, the relevance of peer effects is corroborated. We find clear evidence for 'herd behaviour' and the data indirectly support the presence of 'social learning' effects. The results also suggest heterogeneous impact of specific social groups.

Keywords: Consumer behaviour;herd behaviour;peer effects;social learning;sustainable consumption

Willingness to act and environmentally conscious consumer behaviour: can prosocial status perceptions help overcome the gap?, Vesna Zabkar, Maja Hosta, International Journal of Consumer Studies,

Volume 37, Issue 3, pages 257–264, May 2013

ISSN 1470-6423

Green marketing has not shown expected results in recent years in terms of real changes in behaviours, products and market structures as had been anticipated. Consumer behaviour plays an important role in making these changes happen, and drivers of environmentally conscious consumer behaviour still need to be examined. Concepts of ‘concern’, ‘information about environmental impact’ and ‘willingness to act’ are seen as the key predictors of environmentally conscious consumer behaviours. Although green marketing has been able to address genuinely concerned consumers, additional insights are needed regarding how to appeal to more mainstream consumers. Thus, this paper proposes an extended model of environmentally conscious consumer behaviour in which the gap between willingness to act and actual environmentally friendly consumption is addressed by the moderating role of ‘prosocial status’ perceptions. In the model, ‘concern’ is positively related to ‘willingness’ and both ‘willingness’ and ‘information’ are positively related to ‘behaviour’, while ‘prosocial status’ perceptions moderate ‘behaviour’. The model was verified using a quota sample of 319 general population respondents from a Central European country. According to data, ‘prosocial status’ perceptions increase the positive association between ‘willingness’ and ‘behaviour’ and could be incorporated into green products and advertising to signal personality traits like kindness and intelligence. One possible implication for marketers is that women have a higher average representation in groups of people with high prosocial status perceptions.

Keywords: Environmentally conscious consumer behaviour; concern; willingness; information; prosocial status perceptions

Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance, Jiyun Kang^{1,*}, Chuanlan Liu², Sang-Hoon Kim, International Journal of Consumer Studies, Special Issue: Consumer Issues in Retailing. Guest Editors: Claire Seaman, Mike Pretious and Richard Bent

Volume 37, Issue 4, pages 442–452, July 2013

ISSN 1470-6423

The purpose of this study is to develop a comprehensive understanding of young consumers' attitudes, perceptions and behavioural intentions towards the consumption of environmentally sustainable textile and apparel products. A total of 701 responses were collected from students attending large universities in the US, South Korea and China. An extended model of planned behaviour was developed and tested based on structural equation modeling approach. The results indicate that consumers' product knowledge, perceived consumer effectiveness and perceived personal relevance significantly affect young consumers' attitudes, subjective norms and perceived behavioural control, thereby affecting purchase intentions for environmentally sustainable textiles and apparel. The research findings will benefit both environmental and economic enhancement efforts among policymakers, educators and industry professionals, enabling them to formulate strategies to ensure better communication with consumers to promote desirable consumption behaviour.

Keywords: Consumer effectiveness; consumer knowledge; personal relevance; sustainability; textiles and apparel; theory of planned behaviour

Development of a green consumer behaviour model, Arminda do Paço¹, Helena Alves, Chris Shiel, Walter Leal Filho, International Journal of Consumer Studies, Special Issue: Consumer Issues in Retailing. Guest Editors: Claire Seaman, Mike Pretious and Richard Bent,

Volume 37, Issue 4, pages 414–421, July 2013

ISSN 1470-6423

Research on the background of green behaviour has indicated that the relationship between its antecedents and behavioural consequences is complex and constitutes a challenge for both academics and marketers. Thus, this study aims to explore the link between environmental values, attitudes and behaviours, as well as to develop and test a model that could be valid and applicable to a set of consumers living in different countries. The research examines the perceptions of a sample of 1175 consumers from England, Germany, Portugal and Spain. A model was developed to test the relationships between concepts such as man–nature orientation, generativity, environmental concern, conserving behaviour and environmentally friendly buying behaviour. Structural equation modelling was performed to assess the significance of those linkages. The results obtained confirm the relationship between attitudes and behaviours as the construct conserving behaviour appears to influence buying behaviour, and suggests some measures which may be implemented in simultaneously testing education concepts across audiences in different countries.

Keywords: Green marketing; environmental concern; structural equation

Motivational complexity of green consumerism, Johanna Moisander, International Journal of Consumer Studies, Volume 31, Issue 4, pages 404–409, July 2007,

ISSN 1470-6423

This paper elaborates on the motivational complexity of green consumerism using a simple model of motivation as an analytical tool. The objective is to provide insights into the challenges that environmentally concerned 'green consumers' may face in the markets, as well as to illustrate the limitations of framing and targeting environmental policy measures in terms of individual motivation and morally responsible decision making. On the whole, the paper argues that as a private lifestyle project of a single individual, 'green consumerism' is much too heavy a responsibility to bear. Therefore, the author joins the growing number of scholars who argue that in environmental policy the focus on individual consumers is limited and thus needs to be problematised.

Keywords: Green consumerism; sustainable development; motivation; environmental ethics; environmental policy

Labelling genetically modified food products: consumers' concern in the United Kingdom, Arbindra Rimal, Wanki Moon and Siva Balasubramanian, International Journal of Consumer Studies, Volume 31, Issue 4, pages 436–442, July 2007,

ISSN 1470-6423

An online survey method was used to collect data regarding the concern and attitude of UK consumers towards genetically modified (GM) food labelling. Questionnaires were sent to 9000 participants of the online panel via emails, and 2568 consumers completed the online survey. The response rate was 29%. This study found that more than 75% of the consumers questioned were concerned about the labelling of food products with GM ingredients. Eight perceived risks and benefits of agro-biotechnology were identified to be associated with consumers' attitude towards GM food labelling. Among them, three were perceived benefits, such as reduced use of chemicals in crop production, improved nutritional content, and increased yields. The five perceived risks were health risks, environmental risks, moral considerations, image of multinational corporations as the primary beneficiaries of biotechnology, and growing control of multinational corporations over farming. While all five perceived risks from GM food played a statistically significant role in shaping the overall attitude towards GM labelling, improved nutritional content due to application of biotechnology was the only benefit that was statistically significant. Age of the respondents was the only demographic variable playing a statistically significant role in shaping the attitude of respondents towards GM food labelling. Older respondents were more likely to be concerned about the existing GM labelling practices than younger respondents.

Keywords: Benefits; GM Foods; labels; risks

Explaining consumers' willingness to be environmentally friendly, Alhassan G. Abdul-Muhmin, International Journal of Consumer Studies, Volume 31, Issue 3, pages 237–247, May 2007,

ISSN 1470-6423

Theoretical and empirical evidence from the environmental psychology and related literatures are used to develop a model for explaining consumers' willingness to perform environmentally friendly behaviour. Environmental concern and perceived psychological consequences of environmentally friendly behaviour are posited as key determinants of willingness. Hypothesized antecedents of these are also included in the model, which is tested using structural equation modelling on data from a sample of 232 consumers collected in the Eastern Province of Saudi Arabia. The results indicate that the key determinant of willingness is perceived psychological consequences, which in turn is significantly determined by past behaviour. A hypothesized effect of environmental concern on willingness is not significant, although concern is itself significantly determined by perceived psychological consequences. Other positive determinants of concern are environmental knowledge and perceived seriousness of threats to the global environment. Substantive and methodological implications of the findings are outlined and discussed.

Keywords: Environment; environmental attitudes; environmental concern; environmental knowledge; environmental protection; environmental threats; environmentally friendly behavior

Beyond organic: consumer interest in new labelling schemes in the Central Coast of California, Philip H. Howard and Patricia Allen, International Journal of Consumer Studies, Volume 30, Issue 5, pages 439–451, September 2006,

ISSN 1470-6423

Producers are interested in developing labelling schemes that go 'beyond organic' to address ethical criteria not included the US Department of Agriculture organic standards. However, consumer interests in labels that are not as widely available as organic in the market are poorly understood. This study reports result of focus-group research and a survey of 1000 households in the Central Coast region of California to determine which standards consumers are most interested in supporting through their purchases. The results indicate that standards for the humane treatment of animals have the highest level of support, followed by a standard for local origin, and for a living wage for workers involved in producing food. Logistic regression analysis suggests that humane is more likely to be chosen by women, European-Americans, younger people and frequent organic purchasers. Locally grown was preferred by older people and households with children. A living wage for workers involved in food production was selected more often by Latinos. Although a characterization of trends is not possible due to a cross-sectional design, the results suggest some potential directions for producers in this region who are willing to supply unmet consumer demands for ethical criteria. There are three basic directions that new and emerging labels may take with respect to US national organic standards: (1) separate from organic; (2) institutionally separate, but tightly integrated with organic; and (3) intended to supplant organic. The success of each of these strategies will depend on how much trust consumers continue to place in government oversight of organic food. The study results also suggest that the movement for a more sustainable food system would benefit from devoting more attention to issues of animal rights and social justice.

Keywords: Ethical consumerism; humane; local; living wage; organic; eco-labels

Creating markets for eco-labelling: are consumers insignificant?, Lars H. Gulbrandsen

International Journal of Consumer Studies, Volume 30, Issue 5, pages 477–489, September 2006,

ISSN 1470-6423

The proliferation of voluntary certification and labelling schemes for environmentally and socially responsible production is often seen as driven by companies and consumer demand. Through a careful examination of the initiation and spread of such initiatives in the fishery and forestry sectors, this paper challenges a rational–economic perspective that sees the spread of nonstate governance schemes primarily as a market-driven phenomenon. Drawing on a political consumerism perspective, the paper argues that transnational environmental group networks and their targeting of firms were key to the emergence of nonstate eco-labelling schemes, and that most firms decided to support or participate in such schemes only after intensive environmental group pressure. The paper opposes the view that nonstate governance challenges traditional state authority, by showing that states, through public procurement policies and support, contributed to create markets for forestry and fishery labelling in many countries. Although some states have been more sceptical of fishery labelling, largely because of the way fishery resources are managed, they have come to accept it as a helpful supplement to public rules and regulations.

Keywords: Certification; consumer influence; eco-labelling; environmental governance; non-governmental organizations; private authority

Towards sustainable consumption: an examination of environmental knowledge among Malaysians, Sharifah A. Haron, Laily Paim, Nurizan Yahaya, International Journal of Consumer Studies, Volume 29, Issue 5, pages 426–436, September 2005,

ISSN 1470-6423

Environmental problems are mainly attributable to the impact of humans on natural systems. In the case of Malaysia, rapid urbanization and Malaysian consumer' pursuit of consumption-oriented lifestyles has intensified the solid-waste management problem faced by the government. Increasing public environmental awareness is a potential way of addressing this. The objectives of the study described here were to assess the level of environmental knowledge among households in Selangor in Malaysia, examine the sources of their environmental knowledge, determine factors that lead to different levels of knowledge and analyse the relationship between knowledge and environmental attitude, behaviour and participation. The results of the study indicate that, in general, respondents' basic or general environmental knowledge was high. However, when questioned on various scientific environmental terms, the majority of the respondents were not familiar with most of them. Respondents indicated that their main sources of environmental knowledge and information were newspapers, television and radio. Lower levels of education were reflected in the level of environmental knowledge. Participation in environmental activities had a positive influence on knowledge. The study also found that knowledge correlated positively with environmental attitudes, behaviours and participation.

Keywords: Sustainable consumption; environmental knowledge; consumption; consumer behaviour; Malaysia

NASCAR goes green? New tracks touted as good for the planet, Natale Servino, Earth Island Journal , Autumn 2005 page 25-28

The National Association for Stock Car Auto Racing (NASCAR) organises multiple auto racing sports events. NASCAR popularity has risen sharply since the late 1990s. Now the fastest-growing sport in America, NASCAR can lay claim to over 75 million fans in the US alone more than a quarter of the country's population. The popularity has its environmental impact beyond what the casual fan might think about. This article addresses the problem of community where new tracks are coming up. Studies have shown that economic studies undertaken by political groups with vested interest in the outcome often do not take into account the costs to the community. Profits from the project do not go back into the community but instead to a corporate owner, while debt typically remains the responsibility of the taxpayers. Snohomish County Citizens Against a Racetrack (SCAR) gave emphasis on responsible economic growth, not an event-driven economy. With the sports rising national popularity, the Environmental Protection Agency (EPA) has asked NASCAR to phase out their use of leaded fuel, though still only on a voluntary basis. Still, NASCAR has not found an alternative to leaded fuel, which they say, helps their engines run more smoothly. According to NASCAR spokesman Ramsey Posten, quoted in Sporting News, NASCAR has looked into and will continue to look into making the switch to unleaded, but has not been able to find an alternative to lead, which lubricates engine valves

Keywords: NASCAR; Green Track

Capacity Building Programmes On Dynamics of Eco-labelling and the Need for Compliance Under

A Study on Environmental Standards and its Trade Impact on Indian Textile and Clothing Sector by Jatkar, A. and Simi T. Balakrishnan, CUTS International,

This study was done with the objectives to strengthen the capacity of textiles and clothing (T&C) exporters/producers in their understanding on environmental standards and eco-labels, to promote sustainable production and consumption among the Indian textiles companies by encouraging them to increase the amount of eco-labelled textiles exports from India which leads to a greater penetration in other markets, to create awareness among the T&C supply chain in India on issues related to environmental standards and eco – labels so as to adopt sustainable practices and increase net welfare to consumers as such and increase producer profitability. To full fill these objectives three surveys were conducted based on an Internet survey of consumer organisations and households in select European countries markets to understand and evaluate socio-cultural- political regimes and related barriers generated by the mentioned standards. Second was done on European retailers and importers in the textile and clothing sector to identify the economic costs of implementing environmental standards and the benefits from marketing labelled products. The third one was conducted on a selected number of Indian producers and exports to understand their perception about demand-side factors and also supply-side concerns. Findings of these surveys are that T&C manufacturers are aware of environmental standards; to get in to the international market it needs certification, and compliance with environmental standards have impact on the trading of T&C products.

Can we learn to live differently? Lessons from 'Going for Green', Andrea J. Collins, International Journal of Consumer Studies Volume 27, Issue 3, page 237, June 2003,

ISSN 1470-6423

Participation at the local level is an important factor in determining the success of programmes developed to achieve sustainable development. This paper is concerned with debates over the role of the individual citizen in relation to that participatory process. In particular, it focuses on the UK government's citizens' environmental initiative 'Going for Green'. Through this initiative a five-point Green Code was developed to assist in the delivering of its sustainable development message. The initiative's overall approach to participation was based on an assumption that the primary barrier to translating environmental concern into local action was a lack of information, and individuals would respond to messages in a similar way.

As a research strategy, the case study was used to evaluate methods and processes used to implement the initiative's pilot Sustainable Communities Project in two comparative geographical communities in Merthyr Tydfil (South Wales). Research findings from this study have demonstrated that the case study was invaluable in terms of understanding the participatory process and experiences of a broad range of community stakeholders. Promoting a single model of participation was found to restrict the participatory process in terms of who was encouraged to participate, the scope of their participation, and those outcomes that could be achieved. This paper concludes that if significant progress is to be made in relation to achieving sustainable development, the role of individual citizens needs to be extended beyond that of a consumer of the environment, and also include active participation in a process that is based on collective action.

Sustainability is one of the most important issues facing the world today, and yet many consumers are confused about what the term means. The question of how to create and maintain a sustainable lifestyle is a complicated one. How can we live in a way that meets the needs of the present generation without compromising the ability of future generations to meet their own needs? Would consumers understand the issue better if we used the phrase ‘responsible consumption’?

The Welsh Consumer Council is working on a number of projects that look at different aspects of sustainable development. Wales has one of the only governments in the world with a statutory duty to promote sustainable development, and yet patterns of consumption are spiralling out of control. If everyone in the world lived like consumers in Wales, we would need nearly two extra planets to sustain ourselves. In the fields of energy, food, waste, water, and travel, we are using up far more resources than can be replenished.

This paper will examine the progress of sustainable development in Wales in the wake of the World Summit on Sustainable Development in Johannesburg in August 2002. It will provide an overview of current consumption patterns and will identify some of the main factors inhibiting people in Wales from making more sustainable consumer choices. It will examine the popular image of sustainability, and will also identify what drivers are in place to encourage sustainable consumption.

Eco-Labeling and Stages of Development, Arnab K. Basu, Nancy H. Chau, Ulrike Grote, Review of Development Economics, Volume 7, Issue 2, pages 228–247, May 2003

The paper examines the effectiveness of eco-labeling in providing a market-based solution to the under-consumption of eco-friendly products in developing and developed countries. The authors show that whether labeling is an effective device in solving the problem of asymmetric information between sellers and buyers, or whether false labeling severs the link between willingness to pay and environmental conscious production choices, depends crucially on how monitoring intensities respond endogenously to economic growth, openness to trade, and technology transfers. In particular, by accounting for endogenous policy responses to economic growth, it is shown that an inverted-U relationship exists between consumer spending on eco-unfriendly products and national income. In addition, while international trade unambiguously benefits the environment in the presence of eco-labeling with perfect enforcement, trade openness may nevertheless delay the turning point of the growth and environment relationship, when the cost of enforcement falls disproportionately on developing countries, and when environmental policies are employed to reap terms-of-trade gains.

The role of consumers in product-oriented environmental policy: can the consumer be the driving force for environmental improvements?, Mari Niva, Päivi Timonen, International Journal of Consumer Studies, Volume 25, Issue 4, pages 331–338, December 2001,

ISSN 1470-6423

In environmental policy, it is increasingly accepted that more emphasis should be placed on consumption and its implications from the point of view of the environment. Another relatively new feature is the focus on products. At the policy level, this perspective is known as product-oriented environmental policy or, in brief, product policy. This approach is closely related to the idea of product chain thinking, which means recognizing the fact that environmentally relevant decisions are made at all stages during the products' life cycle, from raw material extraction to consumption and beyond. Based on a Finnish study on product chain actors and environmental improvements, this article discusses the role of consumers in product policy (i) with respect to theories on consumer decision-making and (ii) in the light of product chain thinking. As consumers' decision-making models with respect to consumer products are most often based on heuristics simplifying the decision process, incorporating environmental considerations into these models is a challenging task for environmental policy.

Keywords: Consumers; consumer decision-making; environmental policy; product chain; product policy

Cooling India with Less Warming: The Business Case for Phasing Down HFCs in Room and Vehicle Air Conditioners, Council on Energy, Environment and Water (CEEW), the Natural Resources Defense Council (NRDC), the Institute for Governance & Sustainable Development (IGSD) and The Energy and Resources Institute (TERI) , and Confederation of Indian Industry (CII),

Issue Paper June 2013

As living standards rise for tens of millions of Indian people, the enormous expansion in room and vehicle air conditioning could strain the country's electric grid, require increased fuel import, and magnify the impacts of global warming as a consequence of carbon dioxide and refrigerant greenhouse gas emissions. Choices made in the next few years will shape whether Indian consumers, companies, and government authorities can turn the challenges of the room and vehicle air conditioning expansion into a business advantage and national opportunity while reducing climate change, improving air quality, and making air conditioning more efficient and less costly to operate.

This paper explores the business case for Indian air conditioning companies to “leapfrog” and phase down unsustainable technologies based on chemicals with high global warming potential (GWP) called hydrofluorocarbons (HFCs) and move to a future based on climate-friendly refrigerants and energy-efficient equipment designs.

Keywords: green air conditioners; green labels; global warming; climate-friendly refrigerants

Eco Mark: A Symbol of Environmental Conservation, Dixit, S., Legal News & Views, Vol. 27 No. 3, March 2013, pg. 18-21,

ISSN 2277-5323

Environmental problems are becoming global issue nowadays and Eco Mark is designed to protect environment. The article discusses about the Eco Mark Scheme of India and its objectives. It describes the importance of eco label on the consumer products and about the logo of Indian Eco Mark. Eco mark is a certification mark issued by the Bureau of Indian Standards. It provides the information about the criteria specified by the law related to eco labeling programme for eco-friendly products nationally and internationally. It describes the eco labeling programmes in accordance with International Organisation of Standardisation (ISO). It narrates the role of Global Eco-labeling Network (GEN) - a non-profit association of third party. Also discusses the relation between World Trade Organisation and Eco Mark. It ends with the national legal regime on Eco Mark and status of the Eco Mark scheme in India.

Key words: Green Labeling, Eco-labeling, ISO, International Standards Organisation

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During marketing of each product or service, if it is labeled properly, it makes consumers more informed and product manufacturers attract investors' attention by demonstrating progressive thought and action. There are so many labels, standards, symbols or logos available across the world. It helps the consumer to understand the implications of their buying decisions. These are ISI mark; ISO standards; AG Mark; and eco labels of European Unions, USA, China, Japan, India, and other countries. Green Single is one of these green labels given to products and services not harmful to the environment. The present article narrates the different types of the labels of ISO and schemes of eco labeling across the world.

Key words: Green Labeling, Eco-labeling, New Environmental Policy Instruments, Life Cycle Analysis, ISO, International Standards Organisation

The role of environmental knowledge in young female consumers' evaluation and selection of apparel in South Africa, Dinele Momberg, Bertha Jacobs, Nadine Sonnenberg, International Journal of Consumer Studies, Vol. 36, Issue 4, pages 408–415, July 2012,

ISSN 1470-6423

The harmful impact of the apparel supply chain on the environment is becoming a global reality. However, consumer awareness of the environmental problems caused by this industry is not always obvious in their apparel buying decisions. A qualitative approach was used to explore young female consumers' existing levels of environmental knowledge, and whether that environmental knowledge is reflected in the evaluation and selection of apparel. Non-probability purposive sampling was used to ensure the inclusion of young female students (19–22 years old, n = 29). Participants first had to write an essay on the subject of pertinent environmental issues and then participated in a focus group discussion on the evaluation and selection of a t-shirt. Results suggest that the participants have general environmental knowledge. They have the ability to identify environmental problems as well as the causes and consequences of these environmental problems. However, participants' environmental awareness and their knowledge pertaining to the actual production and supply of environment- friendly apparel in the South African context were very limited. The results also highlight the product attributes important to the participants when evaluating and selecting apparel such as price, aesthetics and functionality of the garment, but environmental attributes such as organic cotton, locally produced, reduced waste techniques and not using harmful chemicals did not feature high under the attributes participants considered. They prioritized price, aesthetics and fit above other attributes (including environmental attributes). Environmental knowledge was not consciously considered in their general apparel decision making, even though participants indicated that they do care about the environment.

Keywords: Environmental knowledge; sustainability; eco-friendly apparel; consumer behavior

Environmentally friendly consumer: from determinism to emergence, Satu Reijonen, International Journal of Consumer Studies, Vol. 35, Issue 4, pages 403–409, July 2011,

ISSN 1470-6423

Several attempts have been made by academics in the past to explain the so-called ‘environmentally conscious’ consumer. These explanations share an important feature, namely determinism. This paper identifies three different sources of determinism that are distinguished in recent literature on the green consumer: cultural determinism, psycho-socio-demographic determinism and calculative determinism. An explanation of the green consumer in these terms, however, loses sight of the emergence and processuality of consumer behaviour. Process oriented constructionism, by contrast, is useful to recover these important aspects. This paper suggests a research agenda focused on socio- material processes and situated actions that lead to the emergence and stabilization of a particular type of consumer behaviour.

Keywords: Consumer research; environmental friendliness; green consumer; process orientation; sustainable consumption

The Public Health Implications of Consumers' Environmental Concern and Their Willingness to Pay for an Eco-Friendly Product, Marla B. Royne, Marian Levy, Jennifer Martinez, Journal of Consumer Affairs, Volume 45, Issue 2, pages 329– 343, Summer 2011,

ISSN: 1745-6606

Environmental concern has been an important topic for more than 40 years and has recently become even more critical with today's concerns about creating a sustainable and healthy environment. This research examines factors affecting an individual's willingness to pay more for an environmentally friendly product. The results show that willingness to pay more differs across demographic groups. It also finds that individuals who rate concern for waste as highly important are willing to spend more money on an eco-friendly product. Consequently, the findings provide insight into the development of appropriate educational strategies for different consumer groups to encourage consumers to purchase eco-friendly products, with a goal of creating a healthier environment for current and future generations.

Key Words: Eco-Friendly Product, environmentally friendly product, Consumers' Environmental Concern

Quest for the eco-apparel market: a study of mothers' willingness to purchase organic cotton clothing for their children, Hae Jin Gam, Huantian Cao, Cheryl Farr, Mihyun Kang, International Journal of Consumer Studies, Vol. 34, Issue 6, pages 648–656, November 2010,

ISSN 1470-6423

The purpose of this study was to examine what consumer characteristics are related to willingness to purchase and selection of children's organic cotton clothing (OCC). A survey was conducted on mothers of pre-schoolers to collect data on mothers' environmental characteristics, involvement with OCC and children's clothing, children's clothing purchasing behaviour and willingness to purchase OCC. A buying scenario experiment was used to examine whether price and other product characteristics influenced the participants' selection of OCC. It was found that a mother's environmental concerns, environmental purchasing behaviour and recycling behaviour significantly affected their involvement in OCC, which further significantly determined mother's willingness to purchase OCC. However, mothers were not willing to pay a premium for purchasing children's OCC. A majority (59.5%) of the mothers who selected OCC in the buying scenario indicated fabric softness was the main reason for their selection. Preparing environmental education materials for consumers and producing OCC with high quality and good performance would help improve the acceptance of OCC in the market.

Keywords: Organic cotton; children's clothing; purchase willingness; price

Effects of social responsibility labelling and brand on willingness to pay for apparel, Gwendolyn Hustvedt, John C. Bernard, International Journal of Consumer Studies, Vol. 34, Issue 6, pages 619–626, November 2010,

ISSN 1470-6423

This study examined changes in consumer willingness to pay (WTP) for apparel products as labour-related information and brand were added. Tobit analysis of auction bids from 121 university students for t-shirts showed men, Hispanics and consumers who believe in social responsibility and fair trade had significantly higher WTP once labour-related labelling was added. The amount and complexity of information did not matter, leaving substantial leeway to companies in crafting their message. Adding brand significantly increased WTP for two better-known brands while not changing WTP for the social responsibility messages. Results suggested brands could benefit from stressing social responsibility-related attributes of products.

Keywords: Willingness to pay; social responsibility; information disclosure; brand

The profile of the green consumer in Greece, Konstadinos Abeliotis, Christina Koniari, Eleni Sardianou, International Journal of Consumer Studies, Vol. 34, Issue 2, pages 153–160, March 2010,

ISSN 1470-6423

Sustainable consumption is one of the major goals of the affluent European societies in their quest for sustainable development. A key player in sustainable consumption is the sustainable or green consumer. The aim of this study was to examine the profile of the Greek green consumer based on the study and empirical analysis of engagement in selected 3R (reduce – reuse – recycle) activities. In addition, the attitudes on certain issues related to sustainable consumption of the consumers were examined and analysed. Empirical analysis is based on the use of a cross-section data set. An extensive survey of 300 Greek consumers via a questionnaire was carried out in the first trimester of 2008. The sampled households were located in five of the main and most representative regions of Athens, with respect to the socioeconomic characteristics (sex, age, income group, education level) of their residents. Respondents were asked to answer questions examining the 3R concept on daily issues such as solid waste generation and water and energy consumption. Empirical results are based on the estimation of regression models. Econometric models are estimated for each question explaining engagement in 3R activities. Empirical results suggest that sociodemographic characteristics do specify engagement in 3R related activities. In particular, age and income are the most influential factors that determine this engagement. In addition, the study reveals that four out of five Greek consumers identify global climate change as the most important issue of our time. However, only one in five of the respondents are willing to change their lifestyle in order to mitigate the negative environmental impacts of our everyday activities; compared with men, women are more willing to do so. One in two consumers reports that eco-friendly products are more expensive than standard ones. However, when questioned as to whether they would pay a higher price for products with less environmental impact, almost four out of five responded favourably.

Keywords: Green consumer; reduce; reuse; recycle; attitudes

Determinants of green electricity adoption among residential customers in Germany, Torsten J. Gerpott, Ilaha Mahmudova, International Journal of Consumer Studies, Vol. 34, Issue 4, pages 464–473, July 2010,

ISSN 1470-6423

The label 'green electricity' is commonly used to refer to power generated from various renewable natural sources (e.g. wind). The present article develops hypotheses on the effects of eight attitudinal and perceptual characteristics of residential electricity consumers on their propensity to adopt a green electricity supplier. The hypotheses are tested empirically with data generated by means of a standardized telephone survey of 267 household electricity customers of a German regional power supplier. Questionnaire answers are augmented with information derived from the supplier's billing system on a participant's actual annual electricity consumption. Measurement and structural relationship models are obtained via Partial Least Squares analysis. Regardless of a person's level of actual power consumption in the recent past, propensity to adopt green electricity is most strongly influenced by general consumer attitudes towards environmental protection issues and social endorsement of green power use by close social contacts. In the subsample of participants with low actual electricity consumption, the propensity to purchase green energy is significantly positively affected by the weight an individual attaches to electricity prices in supplier selection decisions and the person's belief that his current electricity supplier takes over social responsibility. In contrast, in the subsample of respondents with high actual electricity consumption consumer's willingness to adopt green electricity is significantly enhanced by the degree of perceived dissimilarity among power company offerings. The identification of factors influencing the adoption of green electricity offers both practical implications for marketers of utilities and contributes to the academic knowledge base of a service domain characterized by increasing societal importance.

Keywords: Adoption; electricity supplier; environmental attitudes; Germany; green electricity; green marketing

Green consumer market segmentation: empirical findings from Portugal, Arminda M. Finisterra do Paço, Mário Lino Barata Raposo, International Journal of Consumer Studies, Vol. 34, Issue 4, pages 429–436, July 2010,

ISSN 1470-6423

Concern with environmental degradation has led to a new segment of consumers: the green or ecological consumers. Marketers must pay special attention to the needs of this segment. The growing concern with the environment, increased competition and greater selectiveness and demands of consumers represent an immediate challenge for green marketing. This paper aims to identify distinct market segments based on several environmental variables. It also investigates individuals' behaviours and perceptions about green consumerism. The used methodology was the collection of primary information through a direct survey. The study covered 887 Portuguese consumers, aged over 18. The results show that certain environmental and demographic variables are significant in differentiating between the 'greener' consumer group and the other segments. Portuguese consumers, despite their support for policies designed to improve the environment, do not always translate their concerns into environmentally friendly actions. Possible implications of these results for firms' marketing strategies are also discussed.

Keywords: Segmentation; green marketing; environment; consumer behavior

Limits to labels: The role of eco-labels in the assessment of product sustainability and routes to sustainable consumption, Ralph E. Horne, International Journal of Consumer Studies Volume 33, Issue, pages 175–182, 2009,

ISSN 1470-6423

There has been rapid development in the methods, data and protocols for the assessment of product sustainability over the past decade. Notwithstanding this welcome development, the widespread provision of sustainable products has not occurred. Moreover, indications from a myriad of surveys suggest that consumers remain full of intent to purchase sustainably, yet these stated preferences have not translated into a widespread uptake in the purchase of more sustainable products. Heightened interest in climate change over the past couple of years has led to rising calls for labelling to allow consumers to differentiate between more or less sustainable options. Such calls apparently assume that if consumers are presented with appropriate label information their purchases will change and more sustainable purchasing will result. For many observers these calls bring more than a ring of déjà vu as the failures (or at least unfulfilled expectations) of environmental labelling schemes of the past spring to mind. A review and assessment of eco-labelling schemes is presented. Discussion focuses on the history, successes and failures of such schemes, and consideration of their potential role (or not) in future shifts towards sustainable consumption. Behavioural, social practice, institutional and infrastructure factors are considered and labelling, legislation and other options are explored. Conclusions are drawn regarding potential routes to sustainable consumption, with particular reference to eco-labels.

Keywords: Product eco-labels, sustainable consumption

Comparing sustainable consumption patterns across product sectors, Seonaidh McDonald, Caroline Oates, Maree Thyne, Panayiota Alevizou, Leigh-Ann McMorland, International Journal of Consumer Studies, Volume 33, Issue 2, pages 137–145, March 2009,

ISSN 1470-6423

In this paper, the findings from two qualitative studies have been presented where authors explored sustainable consumption practices through examining consumers' information search and decision-making processes for recent purchases of five categories of goods/services: fast moving consumer goods (such as foodstuffs and household products), white goods (such as fridges and washing machines), small electrical products (such as TVs and computers), green energy tariffs (such as electricity from renewable sources) and tourism (such as flights). This research has provided a set of rich data which explores the nature and extent of sustainable consumption practices across different product sectors. A comparative analysis has drawn out for the patterns of consumer behaviour for different product and service types. Findings suggest that even the same green consumer will not use the same information sources or decision-making criteria, consider the same options or focus on the same industry actors, for products in different sectors. Authors have identified some degree of consistency in purchases within sectors. The paper presents these sector-specific patterns of consumer behaviour and highlight differences in the criteria utilized and the research norms in each sector.

Keywords: Consumer behavior cross-sector comparison; green consumers; purchase decisions; sustainable consumption

Sociology fools the technician? Product durability and social constraints to eco- efficiency for refrigerators and freezers, Pål Strandbakken, International Journal of Consumer Studies, Volume 33, Issue 2, pages 146–150, March 2009,

ISSN 1470-6423

Under conditions of ecological modernization, improved eco-efficiency (or, in this case, more specifically energy efficiency) of household appliances has been regarded as an important contribution to more sustainable lifestyles. A point of discussion between radical environmentalists and advocates of ecological modernization might indeed be questions of product improvement and whether the move towards eco-efficient products provides a sufficient answer to the environmental challenge. Will we be able to transform Western lifestyles in a direction of low environmental impact by mainly technological measures? An analysis of Norwegian survey data indicates that the new, energy-efficient cold appliances often do not really replace older products but rather add to the present appliance population. This means that the expected decline in domestic energy use for cooling and freezing is, at best, delayed. Products tend to be used for as long as they work. Thus, the replacement model of economists and engineers fails when confronted with societal practice. Technological improvement might fool the environmentalist, but sociology might fool the technician as well.

Keywords: Durability; energy efficiency; freezers; refrigerators; replacement decisions; eco-efficient products

Determinants of environmentally responsible behaviours for greenhouse gas reduction, Anh-Thu Ngo, Gale E. West, Peter H. Calkins, *International Journal of Consumer Studies*, Volume 33, Issue 2, pages 151–161, March 2009, ISSN 1470-6423

Canadian household consumption and driving behaviours are responsible for a significant portion of greenhouse gas (GHG) emissions produced across Canada. This paper examines and characterizes two sets of consumer behaviours, indoor GHG reduction behaviours and automobile GHG emissions, using data from a 2006 telephone survey of a representative random sample of 1002 Canadian households with cars. Two statistical models are used to analyse the impact of four groups of variables (environmental attitudes, policy opinions, automobile-related indices and socio-demographics) on GHG reduction at the household level. Results were obtained using ordered probit and Ordinary Least Squares regressions. Indoor GHG reduction behaviours were not correlated with automobile GHG emissions. Dominant factors increasing consumer GHG reduction behaviours both indoors and on the road were sense of personal responsibility and previous environmental activism. Canadians who least actively participate in GHG reduction activities were more likely to be living in the Prairie Provinces and to be male.

Keywords: Climate change; environmental attitudes; GHG emissions; transportation; greenhouse gas

Plastic bag politics: modifying consumer behaviour for sustainable development, Elaine Ritch, Carol Brennan, Calum MacLeod, International Journal of Consumer Studies, Volume 33, Issue 2, pages 168–174, March 2009,

ISSN 1470-6423

The adverse environmental impacts of plastic bags, including production energy costs, limited lifespan, increasing landfill content and inability to biodegrade, provide symbolic and practical evidence of a ‘throwaway’ consumer culture which acts as a significant barrier to sustainable consumption in particular and sustainable development in general. Decoupling consumer behaviour from plastic bag use is therefore an important challenge in the pursuit of sustainable consumption as a precursor to achieving sustainable development. This article provides a critical evaluation of that challenge, set within the theoretical framework of sustainable development. It examines the adverse environmental impacts of plastic bag use and evaluates initiatives by governments and businesses internationally to change consumer behaviour regarding the use of plastic bags in line with sustainable development principles. The politics of this agenda are analysed using a combination of consumer policy and public policy perspectives. Finally, the article draws conclusions regarding the earlier analysis.

Keywords: Consumer principles; plastic bags; sustainable consumption; sustainable development

The present article discusses how an ethical and environmental labelling system can be implemented in fashion garment markets. Consumers act in markets that provide them with more information than their limited cognitive capacity allows them to handle. Ethical and environmental labelling in markets characterized by change, such as the fashion garment market, makes decision-making even more complicated. The ethical and environmental labelling system proposed here is designed to alleviate firms' administrative burden and give consumers more choice. It proposes that information on ethical and environmentally friendly production should be combined to enable consumers to decide whether they want to contribute an extra sum for the item they purchase in the store, which would then be transferred to the workers or an environmental organization. The beneficiaries – garment workers in developing countries and environmental organizations – would decide what to do with the money. This is a simpler and more direct solution than those suggested by scholars and activists trying to solve the problems of 'sweatshops' and the environmental consequences of the production of fashion garments. It also reduces administration compared with existing systems. At the same time, it can be implemented alongside systems based on strict regulation of production.

Keywords: Ethics; fashion; information; eco-labelling; green market; political consumption

Neat Freaks: How food safety rules are threatening environment friendly farming practice, Jason Mark, Earth Island Journal, Vol. 23, No. 1, pages 37–42, Spring 2008,

ISSN 1041-0406

This article narrates about the plight of farmers of California, US, facing after the implementation of "Leafy Greens Marketing Agreement" (LGMA). The agreement, which most of the large growers have signed on to, sets up baseline standards for sanitizing equipment, field worker cleanliness, water testing, and restricting wildlife encroachments. This agreement was done to help ease consumer worries when in September 2006 E. coli outbreak dealt a major blow to the \$2.5 billion bagged salad industry, as sales dropped 30 percent. Such requirements are causing frustration and anger among both small-scale organic farmers and larger conventional growers who say that the food safety rules have gone too far, and in the process are rolling back decades of progress in maintaining water quality, establishing wildlife corridors, and protecting biodiversity.

A spring 2007 survey conducted by the Monterey County Resource Conservation District found that 40 percent of farmers on the California Central Coast have removed wildlife from their fields on the recommendation of food safety auditors. About 30 percent have eliminated non-crop vegetation from their farms, and seven percent of farmers have bulldozed in ponds or other waterways to meet processor requirements. One grower lost \$17,500 worth of crops because deer tracks were found in his field; another had to halt a harvest because frogs and tadpoles were discovered in a nearby creek. Many growers who participated in the survey expressed concern about the conflicting priorities of food safety and environmental protection.

Keywords: environment friendly farming practice, farming, environment friendly

Environmental value chain management of laundry detergents in the use phase, Ari Paloviita, Pentti Järvi, International Journal of Consumer Studies, Volume 32, Issue 6, pages 607–612, November 2008,

ISSN 1470-6423

Environmental value chain management is concerned with the environmental aspects of products and services along the whole value chain, from raw material and energy acquisition to waste management. The use phase in the value chain remains an understudied subject, despite considerable consumption-related environmental impacts. The purpose of this paper is to analyse the use phase of laundry detergents in households. Our empirical data consist of interviews in the laundry rooms of 299 Finnish households. Consumers' environmental awareness, use of dosage measuring devices and actual doses of laundry detergents are studied in the empirical part of the study. The results show that consumers do not perceive households as significant polluters, the measuring devices they use are diverse and the number of 'heavy users' is high in all detergent brands. It is concluded that in the consumption of laundry detergents, consumers do not perceive environmental issues as specific value criteria in relation to the use of laundry detergents. Manufacturers, marketers and other actors in the value chain of laundry detergents could contribute to alleviating the harmful environmental impacts of the use phase by more effective consumer education and better product design. For consumers, it might be beneficial to adopt eco-efficiency thinking in their daily consumption.

Keywords: Consumption; environmental impacts; Finnish households; overdosing; value chain management

Labelling wool products for animal welfare and environmental impact, Gwendolyn Hustvedt¹, Hikaru Hanawa Peterson, and Yun-Ju Chen, International Journal of Consumer Studies, Volume 32, Issue 5, pages 427–437, September 2008,

ISSN 1470-6423

The notable growth of the market in recent years indicates apparel consumers' interest in organic fibre products. Yet less is understood about how apparel consumers would respond to labelling for other credence attributes associated with animal-fibre products, such as animal welfare or eco-friendliness. An online survey of 507 US consumers was used to compare consumers' reactions with a variety of labelling schemes for wool product attributes, including animal-friendly, organic and environmentally friendly production. Consumer segments were created based on frequency of label choice, and analysis of variance and multinomial logit regression were used to identify and characterize the demographics and psychographics of the consumer segments that found labelling for animal welfare or environmental concerns appealing. The study identified a segment of consumers (19% of the sample) who were motivated to purchase apparel products labelled for animal welfare. These animal-focused consumers could be identified with relatively high accuracy from the demographic and psychographic variables in the model. The model variables, which included familiarity with organic products and self-perceived knowledge about environmental damage related to apparel production, were not effective in identifying the environment-focused apparel consumers. The results also demonstrated the ability of a general belief in animal rights to motivate the apparel consumers in the sample, suggesting that acting on a concern for animals could be a more powerful motivation for consumer behaviour than acting on a concern for the environment.

Keywords: Wool; apparel; animal welfare; organic; country-of-origin; eco-labels, eco-friendly, environmentally friendly production

Is the urban Indian consumer ready for clothing with eco-labels? Paromita Goswami, International Journal of Consumer Studies, Volume 32, Issue 5, pages 438–446, September 2008

India has witnessed rapid strides of development at sustained growth rates of more than 8% and has seen a huge spurt in consumption. Consequently, it has been estimated that the increased consumption may result in the country becoming one of the leading offenders relating to environmental pollution. The textiles industry in India is traditionally one of the worst offenders of pollution, with its small units following outdated technology processes. One opportunity to reduce the environmental impact of clothing industry in India is to concentrate textile production within environmentally certified or eco-labelled clothing. In the absence of existing research, this study investigates whether the urban Indian population would be interested in clothing with eco-labels. The results suggest the existence of a segment of consumers who are positively motivated towards eco-labelled garments. This segment profile is described in terms of demographic and psychographic variables. Managerial implications and future directions are suggested.

Keywords: India; eco-labelled clothing; consumers; willingness to pay more; eco label

Label performance and the willingness to pay for Fair Trade coffee: a cross-national perspective, Arnab K. Basu, Robert L. Hicks, International Journal of Consumer Studies, Volume 32, Issue 5, pages 470–478, September 2008

In this paper, we investigate how label information detailing the performance of the Fair Trade labelling programme with respect to coffee affect consumers' willingness to pay in the US and in Germany. We provide respondents (university students in the US and Germany) information regarding the hypothetical benefits of the Fair Trade coffee programme on its intended beneficiaries on the production side [the revenue gains to participating marginal farmers (scope of the programme)] and, using stated preference conjoint methods, test how this performance criterion relates to the willingness to pay for Fair Trade coffee. Our empirical results identify a 'threshold' property of performance-based labels. In effect, the willingness-to-pay for performance-based Fair Trade labelled coffee exhibits an inverted U shape in the sense that the willingness to pay is positively related to the scope of the programme, but only up to a critical level. Thereafter, the willingness to pay declines as the income gains to participating growers increase further. Interestingly, this inverted U property is exhibited by both the US and German respondents with different critical thresholds.

Keywords: Willingness to pay; poverty aversion; inequality aversion; stated preference methods; conjoint analysis; cross-national attitudes; Fair Trade

Measuring consumer's willingness to pay for organic and Fair Trade products, Tagbata Didier, Sirieix Lucie, International Journal of Consumer Studies, Volume 32, Issue 5, pages 479–490, September 2008

Previous research has extensively studied consumer's environmental and social concerns. However, measuring the value of the environmental or social dimension of a product remains a challenge. This paper proposes to partially fill this gap by measuring the double 'Fair Trade and organic' labels' value using an experimental method – the Becker-DeGroot-Marschak's mechanism. Two 'organic and Fair Trade' and two conventional chocolate products were tested on a sample of 102 consumers. Results show that organic and Fair Trade labels increase consumers' willingness to pay, and allow the identification of three consumers' clusters. The first cluster represents people insensitive to the label. For the second cluster, the 'organic and Fair Trade' labels' influence on the improving image of the products is positive and important. And finally, for the third cluster, the valuation of the 'organic and Fair Trade' label is determined by the product's taste. Our research contributes to a better understanding of consumers' valuation of Fair Trade and organic labels, leading to our conclusions, which offer managerial implications with respect to this market (importance of taste and usefulness of double labels).

Keywords: Fair Trade; organic products; taste; labels; experimental method; willingness to pay, Organic Labels

Consumer willingness to pay for sustainable apparel: the influence of labelling for fibre origin and production methods, Gwendolyn Hustvedt, John C. Bernard, *International Journal of Consumer Studies*, Volume 32, Issue 5, pages 491–498, September 2008

This study of value-based labelling for apparel products examined consumer willingness to pay (WTP) for three credence attributes of fibre: origin, type and production method. Experimental auctions were conducted with student subjects in Texas and used socks made from cotton and polylactic acid (PLA), a fibre manufactured from corn. The bid results of two rounds were compared. The first round was conducted without information about the credence attributes of the socks. The second round included varying levels of three types of attributes: fibre origin (imported, US and Texas), fibre type (cotton and corn) and production method [conventional, organic and non-genetically modified (GM)]. Tobit regression analysis was performed using the attributes and subject demographics to determine consumer WTP for the various attribute levels and to profile consumers with interest in the attributes. In terms of origin, results show that participants were willing to pay a premium for socks with fibres produced in Texas, but not for those produced in the US. Fibre type mattered, with participants requiring a discount once they learned that socks were made with PLA fibre. The greatest premium (\$1.86) was placed on socks labelled as organic, slightly more than the premium for socks labelled as non-GM. The results also indicate that women were less willing to pay for US fibres than men, and Hispanics were less willing to pay for organic or non-GM fibre production. A key finding of this study is that consumers value information about the local origin of fibres. The premium for organic fibres is not unexpected, given the success of the organic apparel market, but the premium on non-GM fibres suggests that sustainable production systems that are not organic may be successful if they emphasize other attributes such as local or non-GM.

Keywords: Auctions; fibre; apparel; local; organic; genetically modified

Preference for green packaging in consumer product choices – Do consumers care?, Joonas Rokka, Liisa Uusitalo, International Journal of Consumer Studies, Volume 32, Issue 5, pages 516–525, September 2008

In this paper, consumer environmental choice is studied by analysing the relative importance of green packaging when compared with other relevant product attributes. The empirical study is based on a choice-based conjoint analysis of preferences for functional drink products of a sample of 330 consumers using these products. Our choice-based approach on environmental behaviour brings new insights to previous research, which predominantly relies on attitude models. Results indicate that consumers differ in their preferences for packaging, brand, price and convenience of use of daily products. In addition, various distinctive consumer segments can be identified on the market. Contrary to several previous studies, we found that the largest consumer segment, one-third of consumers, favoured environmentally labelled packaging as the most important criteria in their choice. The findings emphasize the increasing importance of ethical and environmental dimension in product choices. We also propose that the attention in environmental consumer research should be shifted from general attitude studies towards the study of actual product choices.

Keywords: Consumer preference; product choice ;environmental packaging and labels; conjoint analysis; segmentation

**Consumers' green commitment: indication of a postmodern lifestyle?,
Haanpää, L. International Journal of Consumer Studies, Volume 31, Issue 5,
pages 478– 486, September 2007,**

ISSN 1470-6423

Green consumer behaviour is one of the key focuses of contemporary research on the sociology of consumption. The constant presence of environmental issues related to consumption and the changes consumer society has faced during the 20th century are presumed to reflect on present consumer behaviour. The focus of this paper is twofold: first, the postmodern elements of consumer society will be discussed; second, the study analyses to what extent these elements of postmodernism fit with the phenomenon of contemporary green consumerism. The empirical part utilizes Finnish consumer behaviour-related data from 2003, which were analysed by applying various statistical methods. In this part, the study reports of the connection between lifestyle and green commitment. Lifestyle is measured by consumption styles and green commitment by certain environment-related consumption choices. The results suggest that different lifestyles explain green commitment better than traditional socio-economic background variables. The effect of postmodernism on green consumer behaviour is, thus, discussed.

Keywords: Environmental attitudes; green consumerism; lifestyle; postmodernism

Promoting energy efficiency in small island states: overcoming barriers to the adoption of compact fluorescent lighting in Saint Lucia, Travis W. Reynolds, Thomas P. DeSisto, Byron Murray and Jane Kolodinsky, *International Journal of Consumer Studies*, Volume 31, Issue 5, pages 460–467, September 2007.

ISSN 1470-6423

The ‘island factor’ refers to a series of shared energy-related issues that many island nations face due to their isolation and limited population size. Under such conditions, one of the only ways to reduce energy costs for consumers is through energy efficiency – including the use of energy-saving compact fluorescent light bulbs. This study uses consumer survey data to investigate how awareness, past purchasing behaviour, and demographic characteristics influence Saint Lucian consumers’ intentions to purchase energy-saving compact fluorescent bulbs. The findings indicate that a lack of awareness and understanding of energy efficiency, combined with high product costs and a lack of product availability currently inhibit the adoption of compact fluorescent technologies by Saint Lucian consumers. Awareness of energy efficiency, income and geographic location are identified as significant factors related to increased use of and willingness to pay for compact fluorescent bulbs. In the discussion, possibilities for public education and cost subsidy for compact fluorescent bulb promotion are proposed.

Keywords: Compact fluorescent bulbs; energy efficiency; island factor; Saint Lucia

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This research examined the demographic profiles of Australian green consumers in relation to their satisfaction of environmental labelling. It examined consumers' understanding of labelling and empirically investigated the association of demographic profile of consumers with their attitudes towards such labels. The results indicated that some of the demographic variables were significant, which is largely consistent with earlier findings by other researchers in this area. Label dissatisfaction was higher in the older and middle age respondents. However, some respondents disagreed that labels were accurate while commenting that labels were easy to understand. The key issue arising from the findings is that in order to provide perception of accuracy in labels, it is an option to use Type I or Type III labelling on products. These labels are, arguably, more credible because they are endorsed by third party labelling experts. This would come at a cost and for green products that use third party labelling, they will also have to bear in mind to keep the prices competitive.

Keywords: Green marketing; green labels; green consumers' profile; third party labels